Influences of parental age of migration and education on children's bilingual vocabulary

The case of immigrant families from Turkey

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Abstract

The influences of parental age of migration and education on children's bilingual vocabulary were studied in 190 five- and 12-year-old Norwegian-born children to immigrant parents from Turkey. First, associations between parental age of migration and education, and possible mediators (language use, language attitudes, literacy activities and the child's preschool-attendance) were investigated. Second, regression analysis was conducted to investigate whether children's bilingual vocabulary were predicted by parental education and age of migration. Third, regression analysis was used to investigate possible mediator effects.

On average, parents had low educational attainment, independent of age of migration. Most couples were based on marriage migration, in which one partner migrated after the age of 18. Language use, literacy activities and the child's preschool-attendance varied across parental educational level and age of migration. 43% of the five-year-olds' Norwegian vocabulary was predicted by parental age of migration and education. These effects were partly mediated by mother's language use, number of children's books and the child's preschool-attendance. The five-year-olds' Turkish vocabulary was not predicted by parental age of migration or education. 20% of the 12-year-olds' Norwegian vocabulary was predicted by parental education and age of migration, effects partly mediated by the child's preschool-attendance. 18% of the 12-year-olds' Turkish vocabulary scores were predicted by parental education and age of migration, with no mediation effect. The findings are discussed in light of sociocultural and conflict-theoretical concepts, and methodological reflections are thoroughly presented.

Preface

Quantitative data from SIMCUR at the Norwegian Institute of Public Health was used in the present study. The participants in SIMCUR, each and every one of you, are the primary contributors. Tessekur ederim[1] for your patient and invaluable participation. Without you I could simply not have written *this* thesis. Brit Opedal, project leader of SIMCUR granted me access to data, and a scholarship associated with punching data for SIMCUR. Thank you.

My supervisors have guided me all the way. Anne-Marie Halberg (Scholar at the Department of psychology) encouraged me to believe in my self and on my own judgements, and you offered thorough advice on how to clean, analyse, interpret and present data. Heloise Marie Ledesma (Researcher at Norwegian Institute of Public Health, SIMCUR) trained me to become a research assistant, an SPSS puncher, and offered thorough information on my ever-ending questions regarding data. Astri Heen Wold (Professor emerita at the Department of psychology) was an inspiring discussion partner throughout the process, and you *always* seem to offer interesting angles and knowledge regarding *everything:* regaring theory, literature, and findings. To all three: Thank you!

Karianne, Hanne, and Cathrine: thank you for inviting me to be engaged in your master projects, and thank you for engaging your selves in mine. Our 'writing-workshop' added cooperation and motivation during the process. Kemal: thank you for helping me to make sense of the Turkish language. Therese, Linn and Esra at the Norwegian Institute for Public Health: thank you for your help and comments. Osloforsking (Research Oslo, University of Oslo) provided a scholarship for the project. Thank you. Marit and Kristin: you always help me when I'm in need. Thank you for offering 'English-assistance'. All my fellow students: Thank you for meaningful and meaningless conversations. Our discussions during the last two years have opened my eyes to new perspectives. The lecturers at the Cultural psychology master deserve a huge 'thank you' for representing a real-life, down-to-earth psychology.

Pilestredet Park 7 deserves applause for grounding my life.

My family and friends know that I love them deeply, so that goes without saying.

24.04.2013, Oslo.

Ingelin Westeren

[1] 'Thank you' in Turkish

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Introduction

There is an increasing number of children growing up bilingually in Norway, due to the use of minority languages in immigrant groups (Henriksen, Østby, & Ellingsen, 2010). These children face the challenge, and have the opportunity, of acquiring *two* languages in their daily lives, while their majority peers acquire one. It is estimated that monolingual children acquire 3000 words annually, which in practice means learning eight words per day during childhood (Wold, 2008). Strictly speaking, bilingual children need to develop twice the sum, if they are to keep up with their monolingual peers. Parents are one of the primary sources of language learning (Hoff, 2006), and this is particularly evident in the cases of bilingual minority families, in which the minority language is not directly supported by the educational system. How do parents influence their children's bilingual language proficiencies?

One of the basic premises in this thesis is that Norway is a 'competence society' in which educational and linguistic skills are key factors for wealth and status (NOU, 2003/16). A second premise of this study is that linguistic- and educational-skills are potentially transferred across generations through various parental resources and practices (Bourdieu & Passeron, 1990). These premises indicate that parental education potentially influences the language environment and the language learning of the child.

However, parental education does not paint a full picture of the minority families. The immigrant parents have each their own unique migration history. *Where* the immigrant come from, *which language* she speaks and *when* she migrated need to be considered when investigating transference of bilingual skills across generations. Hence, in the present study, only *one* group of immigrants are included, to reduce the variability according to country of origin and language background. The parents come from *Turkey*, and their mother tongue is *Turkish. When* they migrated varies. A third premise in this study is that parental age of migration potentially influences the language transmission processes across generations in minority families (Baker, 2011). Age of migration is thus investigated alongside education.

If parental education and age of migration influence children's bilingual proficiencies, through which mechanisms do these factors operate? A fourth premise in this study is that parental language use, language attitudes, literacy activities, and choices concerning the child's preschool-attendance potentially mediate the relations between parental education and age of migration on the one hand, and children's bilingual proficiencies on the other (Dixon, 2011; Dixon, Zhao, Quiroz, & Shin, 2012; Hoff, 2003; Leseman, 2000). These assumed

mediators are therefore included as to shed light over potential behavioural and psychological mechanisms within the families.

How can children's language proficiencies be estimated? A fifth premise in this thesis is that the *vocabulary* dimension captures meaningful facets of children's bilingual proficiencies, and that this dimension might be estimated through vocabulary tests. Research indicates that the *vocabulary* is a crucial factor in reading comprehension and in academic achievements (August, Carlo, Dressler, & Snow, 2005; Bialystok & Luk, 2012; Halaas Lyster, Horn, & Rygvold, 2010). The vocabulary is further seen as a key-factor in all four the language proficiencies: *listening, speaking, writing* and *reading* (Wold, 2008). The bilingual children are placed within the Norwegian competence society, and within a formal Norwegian educational system based on reading and understanding texts, in which vocabulary skills are crucial (Lervåg & Melby-Lervåg, 2009). The *bilingual vocabulary* of children of immigrants might thus provide understandings of their social integration within the educational system and the Norwegian competence society. Social integration of Turkish immigrants' children is studied in the on-going research project *Social Integration among Migrant Children: Uncovering family and school factors promoting Resilience* (SIMCUR). Quantitative data from SIMCUR constitutes the foundation of the present study.

SIMCUR, and this study

The immigrant parents and their children have participated in SIMCUR. The Norwegian Institute of Public Health administers the project, and initiated data collection in 2010. The project focuses on two age-cohorts: five- and 12-year-olds, as these groups are on the verge of a school transition. The children and their families have been/will be visited in three consecutive years, in which the first measurement is called *wave 1*. SIMCUR thus has a longitudinal design, following the families over a three-year period. However, in *this* study only data from wave 1 is used. Both cohorts are included resulting in a *cross sectional* design, and information from *both* parents is used. Parental age of migration and education are viewed as *predictor variables*. Parental practices (language use, language attitudes, literacy activities and the child's preschool-attendance) are seen as *mediator variables*. Children's scores on Turkish and Norwegian vocabulary tests are seen as the *outcome variables.* These variables lead to three research questions of the present study:

Research questions

1. How is the sample of immigrant parents from Turkey characterized according to the predictor- and mediator-variables? How are these variables associated?

2. Do the predictors (parental age of migration and parental education) predict children's Norwegian and Turkish vocabulary scores? If so, which is the strongest predictor?
3. If significant predictions are found in research question 2: Do the mediators (parental language use, language attitudes, literacy activities and the child's preschool-attendance) mediate the relationship between the predictor- and the outcome-variables?

The structure of the thesis

First, terminology of the study is clarified. Second, a description of the Norwegian societal context is offered, due to that children's language development is seen as contextually embedded and influenced by the broader society (Rogoff, 2003). This is followed by a presentation of the theoretical framework guiding this study, in which previous research is integrated, and in which sociocultural theory by Rogoff (2003), and conflict-theory by Bourdieu (1986) supplements each other. Next, a description of the method used in data collection and data analyses is given. Results are presented in the following chapter, organized in three sections answering the three corresponding research questions. The terminating chapter offers a discussion of the findings in light of the theoretical concepts.

Clarification of terminology

Majority and minority. These two labels are used as references to power relations, as suggested by Engen and Kulbrandstad (2004). The minority label refers to groups, which are dominated by others. Within the Norwegian educational system 'minority languages' are defined as all languages except Norwegian and Sami (NOU, 2010/7). The minority languages are dominated due to that all public administration is conducted through Norwegian and Sami (Engen & Kulbrandstad, 2004). Hence, the national and indigenous Sami language is not defined as a minority language, while Turkish is. The distinction between 'migrant minority' and 'indigenous minority' follow the same division line. In Norway, the Turkish immigrants belong to a migrant minority, which cannot claim forms of self-governing, as the Sami indigenous group can. And, the ethnic Norwegian individual is seen as 'strong, because it is his culture that matters, it is he that is the cultural *majority*. The Turk, Moroccan, Pakistani etc. becomes weak because he has to downplay his culture (…) In this manner he becomes the *minority*' (Grønhaug, 1979, in Engen & Kulbrandstad, 2004, p. 19, italics added).

Bilingualism and mother tongue. It is acknowledged that several of the children in the present study might be *multilingual*, due to possibly using Kurdish, Tatar and/or English in addition to Turkish and Norwegian. However, the children are labelled bilinguals due to that

only two languages are studied. *Mother tongue* is seen as the language spoken in the child's home, either by both, or by one of the parents, and a child might thus have *two* mother tongues (NOU, 2010/7). No statement is taken as to whether Turkish and/or Norwegian is the mother tongue of the children, as knowledge of language use in the home needs to be established first.

Socioeconomic status (SES). SES is a composite variable, often including indicators of income, occupational prestige and educational level. Whether measured with one or several indicators, SES has been found to substantially influence children's language development (Hoff, 2006). Various researchers operationalize SES differently. The most common operationalization within studies of language development is solely 'maternal educational level' (Hoff, 2006). In the present study *both* parents' education are included as SES indicators, and these factors are simply referred to as 'parental education'. When referring to literature the terminology of the associated authors is used, whether they use 'social class' or 'SES', and independently of which indicators they include.

Age of migration and length of residence. These two factors indicate the amount of language exposure the parent generation has experienced in Norwegian versus Turkish. Age of migration indicates *at what age* the parent was exposed to Norwegian and at what age she moved from a Turkish linguistic context, while length of residence indicates the *number of years* of exposure in Norwegian (Aagaard, 2011). Age of migration hence indicates to what extent the parent has been exposed to Turkish through childhood, primary school, and into adult life. A parent who has resided in Norway for 15 years (length of residence) might still have migrated late in life (age of migration= 30 years old), if the parent's current age is 45. However, this is not the case if the parent's current age is 25. In the present study age of migration is chosen as the main focus, as it is thought to capture most information.

Preschool-attendance. As most of the children in the present study have attended preschool, more variation is captured according to at *which age* the child was enrolled in preschool. Hence, in the present study, preschool-attendance refers to age of enrolment in preschool.

Societal context

The Norwegian competence society

The Norwegian population is among the highest educated populations in the world. In 2011, and in the age group 30 to 49, in which most of the parents in the present study are located, 40% was educated at tertiary level, 40% at upper secondary level, and 20% at primary level

(OECD, 2011). The Norwegian society has moved from an industrial society to a competence society, and the job marked has changed. Most jobs at the present and in the future will require education at least at upper secondary level (NOU, 2003/16). The development to a competence society is also seen within the Norwegian preschools. In 2005 the administration of the preschools were moved from the Child- and family Department to the Knowledge Department (St. meld. nr. 41, 2008-2009), signalling that development of competence is important also among the pre-schoolers. While only 7% of children (age: one to five) were enrolled in preschools in 1970, the corresponding percentage was 88.5% in 2009 (St. meld. nr. 41, 2008-2009). It has been an official goal to increase minority children's participation in preschools (NOU, 2010/7), a goal largely attained (Statistics Norway, 2012). Parallel to the development of preschools into learning arenas, primary schools have developed in accordance with a recent educational reform, called *Knowledge Promotion* (Utdanings & Forskningsdepartementet, 2004). Within this reform, being able to write, read, and verbally express knowledge within all subjects has been highlighted, and the reform has thus been called a *literacy reform* (Berge, 2005). Within this competence society, reading during leisure time and number of books in the home, have become relevant factors when studying children's development (Rydland, 2009; Øia, 2011).

Unlike many parts of Europe, Norway enjoys a high degree of employment in the population. In the general population in 2011, average employment rate was 84.7% in the age group 25-54 (Statistics Norway, 2013c). The general income level in the population is high relative to many other European countries. Among *couples with children (age 0-7)* the median annual household income in 2011 was 652.400 Norwegian kroner *after tax* (Statistics Norway, 2013c). The parents in the present study are thus embedded in a context in which the general SES level is high.

Multicultural society. The development towards the competence society has been paralleled by the development towards a multicultural society driven by recent immigration (Alghasi, Eide, & Eriksen, 2012). In 1970, less than two per cent of the population were immigrants or children of immigrants, while the corresponding number in 2012 was 13% (Statistics Norway, 2013a). Statistics Norway, responsible for coordinating all public statistics in Norway, has recently established the term *Norwegian-born to immigrant parents* (Henriksen et al., 2010), to distinguish the new generation from their *immigrant* parent generation. Research reveals that children of immigrants born in Norway take higher education and are more often employed than their parent immigrant generation (NOU, 2010/7). However, research also indicates large variations *within* the generation of Norwegian-born children to

immigrant parents. For example, children of immigrants from Turkey achieve less in school than peers with immigrant parents from Vietnam (Henriksen et al., 2010). Nonetheless, when the group of Norwegian-born children to immigrant parents are compared to the majority group, their average achievements in school are located below the majority group's average achievements (Bakken & Elstad, 2012). Also, children of highly educated parents, achieve more in school than children of low educated parents, independent of minority/majority status (Bakken & Elstad, 2012). The families are thus located in a social context in which social inequality exists along the lines of minority/majority, and of SES.

When entering primary school, children of immigrant parents are defined as minority students if their home language is other than Norwegian or Sami (NOU, 2010/7). The minority children are offered teaching in their minority language *only* if their Norwegian skills are insufficient for participation in ordinary teaching. The sole aim of such minority language teaching is to better the children's Norwegian skills, before transferring them to ordinary teaching (Opplæringslova, 2012). The development of the minority language is therefore primarily supported by parental practices and resources, and seldom by the educational system.

The Turkish immigrants

In 2010, in which SIMCUR's data collection began, there were 5620 Norwegian-born children with immigrant parents from Turkey, and 10 378 immigrants from Turkey in Norway (Henriksen et al., 2010). Most of the immigrants and their children live in urban areas around Oslo and Drammen, but many are also located across the country (Henriksen, 2007). The immigrants from Turkey came primarily as labour immigrants before the immigration stop in 1975, and in the following decades, due to family reunification and marriage (Engen & Kulbrandstad, 2004). Migration marriage, in which the Turkish immigrant residing in Norway marries a non-Norwegian spouse, was the case in three out of four marriages among the Turkish immigrants between 1996 and 2005, and the majority of the spouses were Turkish citizens (Henriksen, 2007). Informal information offered by participants and associated research assistants in SIMCUR, suggests that trips to Turkey, and online communication with Turkish residents are usual among the Turkish immigrants. This is also supported by recent research on Turkish immigrants in Europe (Scheele, 2010).

Kurds. Turkey is a diverse country and so are the immigrants from Turkey. 18% of the Turkish population belongs to an ethnic minority groups called the Kurds, and 7% belongs to other ethnic minority groups, such as *Tatar* (CIA, 2013). While the *Tatar* language resembles

Turkish, Kurdish languages belong to a different language group than the Turkish majority language (Uçarlar, 2009). An on-going and long-lasting conflict with aspects of denial of Kurdish language and culture has marked the political scene in Turkey (Casier, Jongerden, Casier, & Jongerden, 2011). As families with Kurdish and Tatar background are included in the study, careful considerations must therefore be taken due to that *Kurdish* and *Tatar linguistic* resources are not captured within the framework of the present study.

Turkish language. The Turkish language does not belong to the Indo European language group, and linguists disagree on whether the language is related to Ural-Altaic, Finnish or Japanese or none of these groups (Delaney, 2004). Additionally, few international parallel words exists within Turkish and Norwegian (Engen & Kulbrandstad, 2004). Direct transfer of vocabulary knowledge across languages is thus restricted. Though there are regional variations within the Turkish language, people understand each other across regions (Delaney, 2004). Turkish is supported institutionally through mass media, online newspapers, and internationally broadcasted Turkish TV channels, and these resources are internationally available due to satellites and the Internet (Scheele, Leseman, & Mayo, 2010).

Theoretical framework and previous research

Previous research is presented alongside theory, as it is used to offer an empirical foundation for the study. Psychological *sociocultural* theory on cultural transmission and change (Rogoff, 2003) on the one hand, and sociological *conflict-theory* on cultural reproduction and stability (Bourdieu & Passeron, 1990) on the other, are used as complementary theoretical stances. Aspects related to the phenomena *bilingualism* and *vocabulary,* are presented prior to the two main theoretical frameworks.

Bilingualism

Grosjean suggests a usage- and context based definition of bilingualism: 'bilinguals are those who use two or more languages (or dialects) in their everyday lives' (Grosjean, 2010, p. 4). This definition is in accordance with the sociocultural approach to children's language learning as will be elaborated in the next section, in which language learning is seen as evolving through practices within their everyday lives and social context (Rogoff, 2003). Contextual heterogeneity in everyday living is thus likely to produce numerous ways of becoming and being bilingual (Hoff, 2012). Grosjean states that:

> *The bilingual uses the two languages – separately or together – for different purposes, in different domains of life, with different people. Because the needs and uses*

of the two languages are usually quite different, the bilingual is rarely equally or completely fluent in the two languages (2008, p. 14).

Hence, the bilingual persons' language skills are seen as an integrated whole, not to be decomposed into two separate parts (Coste & Simon, 2009). According to Grosjean, this view implies a *holistic* approach to bilingualism, and a *fractional* approach in which bilingual skills are directly compared towards monolingual norms in each language becomes less meaningful (2010). While most of the world's population grow up in bilingual contexts (Dixon, Wu, & Daraghmeh, 2012), most research on language development has nonetheless been concerned with monolingual children in monolingual environments (Grosjean, 2010). Hence, when approaching bilingualism, a *fractional* approach, has often been the case (Baker, 2011). Research has often compared bilingual children's skills towards monolingual norms, and findings indicate that bilingual children in migrant minority settings often have smaller vocabulary sizes in both their languages than their monolingual peers in their one language (Bialystok, Luk, Peets, & Yang, 2012). However, when studying metalinguistic skills, phonological skills and non-verbal cognitive skills, the bilingual children often outperform their monolingual peers (e.g., Bialystok, 2011). It is acknowledged that the present study's focus on solely the vocabulary dimension of the bilingual children's skills, might lead to a fractional approach, highlighting a language dimension in which the bilingual children are often said to have a disadvantage when compared to their monolingual peers. However, only internal relations between parental factors and children's vocabulary skills are studied, and comparisons towards monolingual norms per se are of less interest.

Cummins, a leading researcher on bilingualism in minority settings, has suggested to distinguish between *basic interpersonal conversational skills* (BICS) and *cognitive academic conversational skills* (CALP) when studying bilinguals' proficiencies (2000). While BICS is a universal register drawn from peoples' everyday communication experiences, CALP is a register relative to cultural context, mainly drawn from Western school experiences (Aagaard, 2011). CALP relies on decontextualized, and literate communication styles, while BICS relies on cues in the context, and is usually more descriptive (Scheele, 2010). Cummins highlights that CALP is not intrinsically superior, and that BICS might be just as cognitively demanding as CALP (2000). Recent research has linked the BICS/CALP distinction specifically to the vocabulary, distinguishing vocabulary typically used in school, and vocabulary typically used in the home setting (Bialystok et al., 2012; Thurman-Moe, Meyer Bjerkan, & Monsrud, 2012). A Norwegian study compared the vocabulary skills of minority

children across their two languages, and found lower scores on CALP related (i.e. low frequent words, or words with Latin origin) *Norwegian* words, when compared to their corresponding scores in the *minority* language (Thurman-Moe et al., 2012). They suggested two potential reasons: More extensive vocabulary knowledge in the minority language, or that the CALP related items in the minority language test were translated into more descriptive and assessable words than in the corresponding Norwegian language test. Bialystok and Luk (2012) on the other hand compared the skills of bilingual children within the majority language, and found the children's knowledge of so-called *home context* (e.g. food, household items, culture specific items) words to be lower than their knowledge of so-called *school context* (e.g. professions, animals, plants, shapes, musical instruments) words. This was estimated through categorizing the words in the vocabulary test according to 'home' and 'school' words, and thereafter calculate the percentage of correct responses within each category. They suggested that the formal educational system supported the development of CALP, while not supporting the development of BICS within the classrooms as the underlying reason. Cummins has further linked the distinction BICS/CALP to his *interdependence* hypothesis (Cummins, 1979), a hypothesis that counters the so-called *competition* hypothesis.

According to the interdependence hypothesis, attaining proficiencies in one language promotes the acquisition of the other. However, Cummins states that this *additive* form of bilingualism only 'can be developed on the basis of adequately developed first language skills' (1979, p. 222). The bilingual child thus needs to develop skills up to a certain *threshold* in their first language, before these are transferred or added to a second language. These skills need to be developed within both registers, i.e. including the CALP register with its literate skills and often 'school based' vocabulary, if such a threshold is to be reached (Cummins, 2000). The competition hypothesis on the other hand postulates that the two languages of the bilingual are *competing*, so that time spent on one language, is time lost for the other (Quiroz, Snow, & Jing Zhao, 2010). Both the interdependence hypothesis and the competition hypothesis have gained support in previous research (Quiroz et al., 2010). For example, in a Dutch study of Turkish-Dutch pre-schoolers, the researcher suggested that the children were enrolled in Dutch preschools too early, due to that their skills in the first language were not sufficiently developed for being transferred to the second (Leseman, 2000). This points towards that the skills of the first language need to go beyond a *threshold* to be transferred to the other. However, the same study found traces of cross language transfer within the children's receptive language skills, and at the same time, absence of

transfer within the productive language skills of the children. Likewise, a Dutch study from the mid 90's, on the same population found interdependence according to phonological and conversational skills, but not according to vocabulary skills (Verhoeven, 1994). Yet, a third study, found bilingual Hispanic-American pre-schoolers' languages skills to be selectively facilitated by the specific language used in book reading, so that book reading in one language did not profit the skills in the second language, implying support for the competition hypothesis (Patterson, 2002). As indicated by previous research, no clear suggestions can be made on whether the skills seen in each language of the children in the present study should be expected to be transferred to the other. It s worth noting that the competition hypothesis also accounts for possible transference of certain skills across languages (MacWhinney, 2005)

Vocabulary

The vocabulary, also termed the *lexicon,* is the sum of the words a person knows and uses, and it thus have an expressive and a receptive side (Halaas Lyster et al., 2010). Lexical skills are linguistic skills that continue to develop throughout the lifetime (Cummins, 2000). Recent research has claimed the vocabulary to be a critical determinant of reading comprehension (August et al., 2005; Rydland, 2012). There are large variations according to the size and the quality of the vocabulary children acquire, and these variations are determined by both individual and social factors (Goldenberg, Rueda, & August, 2006; Paradis, 2011). In the present study, social factors at the family level are highlighted. However, two individual factors, gender and age, are included as control variables. This means that though the present study does not investigate how gender and age potentially influence children's vocabulary, these factors are held constant as to control for their potential effects. Studies have found girls to score higher on vocabulary measures (Portes & Schauffler, 1994; Tran, 2010), while others have not found gender differences in vocabulary (Halaas Lyster et al., 2010). Norwegian educational research on the other hand has revealed robust evidence for higher academic achievements among girls when compared to boys (Bakken & Elstad, 2012). Taken together, it seems necessary to control for gender in the present study. It also seems necessary to include age as a control variable, due to the mere fact that the vocabulary increases dramatically from year to year in child-hood (Wold, 2008). With the exception of these two control variables, the attention is turned to social factors at the family level.

A frequently cited North American study by Hart and Risley (1995), found solid empirical evidence for SES related vocabulary differences among monolingual three-year-

olds. The children they categorized as 'low SES' showed small vocabulary sizes when compared to children of middle SES and high SES background. Cummins' distinction BICS/CALP may be useful in interpreting these results. The high SES children had highly educated parents who had participated and profited on formal Western schooling, and these parents were therefore likely to have developed their CALP related vocabularies. As language testing of the children included both CALP- and BICS related words, the children of the high SES parents were likely to score higher due to potential experience from CALP related talk with their parents. This study will be further elaborated in later section. A follow-up study by Walker et al., of the same children at the age of five to 10, revealed that the SES differences in vocabulary size persisted as the children gained school experience (1994). The impact of schooling did not seem to reduce the initial vocabulary differences. Social influences on vocabulary are further highlighted in the following section.

The sociocultural framework

Human development and culture

Rogoff has articulated a sociocultural approach to human development, culture and cultural change (2003). She states that humans primarily develop through their 'changing participation in the sociocultural activities of their communities, which also change' (Rogoff, 2003, p. 11). Further, she sees culture as patterned ways of organizing everyday life, and acknowledges that culture 'isn't just what *other* people do' (2003, p. 11), but rather something everybody is embedded within. Adhering to a sociocultural approach acknowledges that contextual factors, both on societal and family level, are crucial for understandings of children's development (Thorsen & Toverud, 2002). In this way, social categories such as ethnicity and SES are not seen as meaningful descriptions of individuals and groups *per se*, but rather seen as indicators of social processes, and bearers of social, political and material inequality within the society (Cole, 2009). Hence, the SES related differences in children's vocabulary in Hart and Risley's (1995) and Walker et al's. (1994) study are seen as indicators of processes of social inequality, rather than results of intrinsic properties within the minority families.

Cultural tools, language learning and sociocultural activities. In line with the Russian funder of the sociocultural approach Lev Vygotsky (Vygotskij, Cole, John-Steiner, Scribner, & Souberman, 1978), Rogoff sees language as a *cultural tool*, which is developed and transmitted across generations within a cultural context (Rogoff, 2003). However, as the historical and material context of each generation change, so do the use and function of

language. Within Rogoff's theoretical framework, language learning and children's development are seen as products of participation in sociocultural activities, and not primarily as processes of individual maturation. Hence, attention is turned towards how sociocultural activities and social context, influence children's language learning and development.

Research has linked certain sociocultural activities to SES and cultural background. In the Netherlands, Leseman found that Turkish immigrant parents, with a generally low SES level, rarely engaged their children in activities such as book reading and conversations about past events when compared to majority parents (2000). In Norway, Stefansen found working class monolingual majority parents to relate to and to use mainstream preschool-arrangements differently than middle class parents (2011). Further, high SES monolingual parents, have been associated with sociocultural activities such as child oriented language games, fantasy elaboration of every day events, oral story telling, and high frequency of verbal communication (Hart & Risley, 1995; Heath, 1982; Leseman, 2000). In Hart and Risley's study mentioned previously, the high SES parents engaged their children more often in linguistic interactions and used richer vocabulary than the lower SES parents. And importantly, research has linked these sociocultural activities to increased vocabulary size among children (Hart & Risley, 1995; Hoff, 2006). Sociocultural activities, cultural changes across and within generations, and cultural variations in practices related to children's language development are key understandings within the sociocultural perspective.

Bilingualism in minority families: age of migration and sociocultural activities

In accordance with sociocultural theory, it is assumed that recent immigration versus long and stable residence affects the language use of the parents (Pease-Alvarez, 2002). It is also assumed that parental age of migration potentially influences the family's contact with the home country, and identification and knowledge of the minority language (Baker, 2011). Further, language skills are variously transferred and changed across generations. Parental age of migration might indicate to what extent the parents' language skills and experiences have been developed within a Turkish or a Norwegian community, and this might tap into how linguistic transference are conducted across generations. Research has indicated that length of residence, and age of migration influence parental language use, and bilingual children's language proficiencies (Hurtado & Vega, 2004; Lambert & Taylor, 1996; Pease-Alvarez, 2002; Portes & Schauffler, 1994; Tran, 2010). Research on bilingual immigrants has often found these parents to use a mixture of the minority and the majority language with the children (Dixon, Wu, et al., 2012; Oller, Pearson, & Cobo-Lewis, 2007; Pease-Alvarez,

2002). It is worth noting that studies have found mixed language use of parents to threaten vocabulary growth in both languages of minority children (e.g., Dixon, Wu, et al., 2012).

Language attitudes might contribute information regarding the attachment the parents feel towards a language, and more generally towards the ethnic group associated with the language (Engen & Kulbrandstad, 2004). These parental attitudes towards the minority language/ethnic group might come under pressure as the child advances in school, if the minority language is considered to be of less value within the formal educational system (Engen & Kulbrandstad, 2004), and it is assumed that these attitudes might potentially mediate relations between parental age of migration and education, and children's vocabulary.

In a Norwegian context with extensive availability of preschool-arrangements, decisions concerning preschool-attendance are primarily based on the parents' choices and opportunities. These choices might influence on the language development of the children. Leseman (2000) found no positive effects of preschool-attendance on Turkish-Dutch pre-schoolers' minority language skills, while positive effects were associated with their majority language skills. Rydland (2009) found long-term effects of preschool-attendance among bilingual minority 5th graders in Norway, related to their reading comprehension within the majority language, and this might also indicate an underlying association towards vocabulary.

Vocabulary tests, test situation and the role of the researcher

The sociocultural perspective sees language- use and -function as socially, historically and culturally embedded (Rogoff, 2003). Translations of vocabulary tests across context, language groups, and groups of children might hence pose challenges for the validity of the tests. In the present study, the applied vocabulary tests were originally normed in a North American context, in American English, and on monolingual children. These tests have been translated to measure the vocabulary knowledge of children growing up in Norway, in Norwegian and Turkish language, and in bilingual children in the present study. Previous research indicates that such translation processes are not ideal (Dixon, 2011; Dixon, Wu, et al., 2012; Gonzalez, 2006; Monsrud, Thurman-Moe, & Meyer Bjerkan, 2010; Thurman-Moe et al., 2012). For example, there are no universal standards on what constitutes a CALP or BICS word. CALP related words in English, e.g. 'caster' and 'perforated', might be translated to more contextual and descriptive BICS related words in Turkish, e.g. 'little wheel spinning' and 'with holes' (Monsrud et al., 2010). Moreover, a word known to most five year olds in North America (e.g. 'squash') might be highly unusual in a different cultural context,

and would potentially have to be removed in a different context (Dixon, Wu, et al., 2012). The test situation *per se*, as a sociocultural context, is also likely to vary in its familiarity to children across cultures (Gonzalez, 2006), potentially also across children in the present study. The tests used to assess the children's Turkish and Norwegian vocabulary skills in the present study have been variously described as including bot BICS and CALP words, both high- and low-frequent words, and both sophisticated and simple words (Bialystok et al., 2012; Dail & McGee, 2011; Thurman-Moe et al., 2012). The tests are presented in the Method chapter.

In my opinion, a sociocultural approach implies that one sees the research setting as a sociocultural setting, likely to be influenced by both the researcher and the participant. This line of thought is found within the constructivist research paradigm, as defined by Guba and Lincoln (1994). According to the constructivist paradigm, research findings are constructed through interaction between the researcher and the participant. SIMCUR, the research assistants and the material used by SIMCUR might have influenced the participants in a certain direction, and it is therefore valuable to investigate not only the 'findings' but also the framework the findings were created within. Also, in writing this master thesis, I as a white middle class, researcher who grew up in a monolingual context, in a working class family, have my own experiences and opinions, which are likely to influence my research questions and formulations. For example, my experiences with language as an important identity marker, might have led special attention to be turned towards the minority language of the families in the present sample. And further, my experiences of taking higher education and profiting on acquiring a specialized vocabulary, might have led to a narrow focus on the vocabulary dimension of language.

The sociocultural perspective and the constructivist paradigm provide useful approaches for understanding cultural variations, human development, and human interaction. However, dimensions of social inequality and reproduction are also present within the Norwegian competence society, and are relevant in studies of migrant minority families. These dimensions are highlighted within the conflict-theoretical framework.

The conflict-theoretical framework

Social inequality

Bourdieu states that the educational system favours children from middle class background, through confirming their cultural background and skills (Bourdieu & Passeron, 1990). In his view, the vocabulary differences seen in Walker et al.'s study (1994) imply that the high SES

background of the parents was reproduced onto the next generation, due to that their vocabulary skills were reproduced across generations, skills largely valued and confirmed by the educational system. Hence, studying SES related vocabulary differences might be one way of revealing the underlying mechanisms resulting in social inequalities within the educational system. Bourdieu's sociological conflict-theoretical concept *capital* captures these facets of social inequality and reproduction (Bourdieu, 1972, 1986; Bourdieu & Passeron, 1990).

Capital . Bourdieu distinguishes between three forms of capital: *economic, cultural* and *social capital.* All three forms have the capacity to be exchanged into benefits for the individual, and to be transferred across generations (Bourdieu, 1986).

Economic capital concerns material and financial goods, such as income and ownership. Economic capital is seen as especially influential on children's development in communities in which economic resources are scarce and unevenly distributed (Bakken, 2003). In Norway, economic resources are more evenly distributed, and poverty in the absolute sense of absence of food, housing and clothes is rare. However, in the present study economic capital is included as descriptive background information concerning the families' income and employment status, as it is acknowledged that economic capital constitutes an important factor in children's development. It is also acknowledged that minority children are at heightened risk of growing up in so-called *low-income* families, when compared with the majority group (Statistics Norway, 2013b).

Cultural capital is a wide concept, connected to knowledge, education, taste and linguistic skills. Bourdieu states that cultural capital is reproduced through 'domestic transmission' (Bourdieu, 1986, p. 48), and through the educational system (Bourdieu & Passeron, 1990). Cultural capital has thus been seen as involved in 'maintenance and transmission of forms of knowledge, values, education and expectations, and it includes the interplay of individual values and attributions, cultural goods (e.g., books, computers), and educational institutions such as academic credentials and diplomas' (Shany & Geva, 2012, p. 80). In the present study, parents' formal educational qualifications are seen as indicators of their cultural capital, and their cultural capital relates to linguistic aspects, as elaborated later.

Social capital is the third form of capital, and it is seen as the aggregate of social relationships of mutual recognition accessible to a person (Bourdieu, 1986). It is acknowledged that social capital surrounding the children should be considered in studies of their bilingual proficiencies though this falls outside the scope of the present study. The

reader is invited to seek out previous research, to supplement understandings of social capital in immigrant families linked to bilingual development (e. g., Lanza & Svendsen, 2007).

The social world is accumulated history' and 'capital is accumulated labour' (Bourdieu, 1986, p. 46). Capital takes time to acquire, and it has the capacity to produce benefits and to 'reproduce itself in identical or expanded forms' (Bourdieu, 1986, p. 47). Hence, the immigrant leaving her home country might have to use *time* to acquire capital within the new sociocultural context, and this context might be 'accumulated' through a different history, than that of the home country. Additionally, the children of immigrants might 'inherit' less capital than their majority peers, since their parents have had fewer years of accumulating capital in the new sociocultural context.

Linguistic capital: dominating and dominated languages.

Connected to the concept cultural capital, is the concept *linguistic capital* (Bourdieu, 1972). Bourdieu states that in bilingual contexts, a *dominant* and a *dominating* language emerges on the basis of social class division lines. In his view, the dominant language 'is the language of the dominant class' and he states that 'a language is worth what those who speaks is are worth' (Bourdieu, 1972, p. 652), Within this framework Turkish language is a dominated language of less value than the dominating Norwegian language, which is linked to the official language status in Norway. A study of Turkish immigrants in Belgium found teachers to reject linguistic resources in Turkish by prohibiting the use of online Turkish newspapers (e.g. the newspaper Hürriyet), while at the same time permitting the use of online Dutch newspapers (Agirdag, 2010). The researchers interpreted this practice as a sign of domination by the majority group. When interviewing the Turkish immigrant students, the researchers found them to adapt to the majority view, as they saw their mother tongue as a hinder of educational success. Bourdieu's concept linguistic capital does not only relate to dominated/dominant languages in bilingual contexts, but also to speech styles within languages (Bourdieu, 1972).

According to Bourdieu, what most evidently separates the middle class from the working class, is their use of language, i.e., their linguistic capital, as also suggested by the sociolinguist Bernstein (Bernstein, 1971). As suggested by the definition of cultural capital, linguistic skills are crucial parts of an individuals' cultural capital. This taps into Cummins' distinction BICS/CALP, as it might be suggested that highly educated, middle class parents might use, and be in command of more CALP related words, and hence reproduce their linguistic capital and vocabulary, to the next generation, through domestic transmission and

by confirmation by the educational system. The cultural and linguistic capital might variously be exchanged into benefits for immigrant parents and their children in the present study. And the amount, distribution, transfer and exchange of parental cultural and linguistic capital might be influenced by additional factors, such as age of migration and parental practices.

Cultural- and linguistic capital in bilingual minority families

Research reveals contradictory effects of parental education on children's bilingual vocabulary development. Research often finds parental education to be positively associated with bilingual children's vocabulary in the *dominant* language (Dixon, 2011; Leseman, 2000; Portes & Schauffler, 1994; Quiroz et al., 2010; Scheele et al., 2010). However, a pattern of contradictory findings emerges according to the relation between parental education and children's skills in the *dominated* language. Some studies show parental education to be *negatively* associated with vocabulary in the *dominated* language, such that low SES children scored higher on vocabulary tests in the dominated language than children of high SES (e.g., Dixon, Wu, et al., 2012). Others reveal no relation to parental education (e.g., Dixon, Zhao, et al., 2012). Further, some studies have found parental language *use* to mediate the effect of parental education on bilingual children's vocabulary (Carhill, Suárez-Orozco, & Páez, 2008; Erika Hoff, 2003).

The 'cultural capital' model versus the 'deficit' model. In a study on Ethiopian immigrants in Israel, researchers found that the cultural capital of the immigrants did not correspond with the cultural capital of the Westernized Israeli society. This misfit was further associated with poor school achievements and poor vocabulary development among their children (Shany & Geva, 2012). The Ethiopian-Israeli children experienced that the teachers in the Israeli educational system, did not adapt their instructions towards their cultural background. Hence, within the cultural capital framework the poor achievements in school and on the vocabulary tests were not ascribed to 'deficits' within the home environments of the immigrant children. It was rather seen as signs of the inability of the formal educational system to adapt instructions to relevant 'aspects of the children's home cultures' (Shany & Geva, 2012, p. 80). This turn away from a deficit model in studies of bilingual children is in accordance with recent review articles and books on the field of bilingual development by leading researchers such as Hoff (2013) and August and Shanahan (2006). This line of thought is also found in Rogoff's sociocultural framework. Rogoff states that as *European middle class communities* emerged in our modern society, new forms of use and functions of language also emerged (Rogoff, 2003). New sociocultural practices developed within these communities, and these

were characterized by the extensive involvement in the particular cultural institution of formal schooling. As family size decreased, fathers and mothers were engaged in wage work, and the formal educational system started to engage the children, specific child oriented interactional styles developed. These replaced practices of adult oriented interactional styles in which the child tapped into mature activities. Also Cummins has suggested that while CALP largely develops through the particular Western educational system, this register is *not* superior in any way (2000), but rather a specific register developed within the Western schooling system and society. By visualizing the middle class white sociocultural practices and language use, Rogoff, Cummins and Bourdieu remind us *not* to look at migrant, and potentially working class families and bilingualism from the perspective of a deficit model.

Method

This chapter offers a presentation of the methodological foundation of the study.

Recruitment

The National Population Registry provided contact information for families with Turkish background. The families were selected according to the following criteria: that either both of the parents were born in Turkey, or that they were born in Norway to two Turkish-born parents. The child in the family had to fit into one of two age cohorts: cohort 1 consisted of five-year-olds and cohort 2 consisted of 12-year-olds. Hence, 'first-' and 'second' generation immigrant parents were invited, in which parents with Kurdish and Tatar background were included. Only first generation parents were identified in the registry. Possible participants were sent an information brochure in Turkish and Norwegian (Appendix A, in Norwegian). Recruiters were able to reach 92%. Of these families, 22% agreed to participate.

Participants

Children. A total of 202 (cohort 1: 97, cohort 2: 105) children with Turkish background participated in SIMCUR at the first wave of data collection, from which data for the present study is used. The present study consists of fewer participants than the original SIMCUR sample, due to the exclusion of 12 children and their families. Six children were excluded due to lack of language assessment in both languages, as these scores were necessary for further analysis. Missing vocabulary assessment was due to several reasons: in two of the families only mother participated, in one of the families, the child could not be assessed due to disability, in one family the child refused to participate, and in two families information on reason is missing. Children who migrated to Norway *after the age of three* were excluded.

This resulted in the exclusion of six children and their families. Two cohort 2 children, who migrated *before* the age of three, were included. The exclusion criteria was set at migration at/or after the age of three, due to that research indicates that crucial language learning takes place before the age of three to four (Torkildsen von Koss, 2010). However, the sample as a whole is referred to as *Norwegian-born to immigrant parents*. Three children with mild physical impairments (one with weak vision and one with impaired hearing in one ear) or a behavioural diagnosis (within special educational placement) are included in the sample. Table 1 presents demographic information on the children in the present study.

Table 1. *Descriptive statistics for the children*

Variable	**Cohort 1 (N = 90)**		**Cohort 2 (N = 100)**	
	N	**M (SD)/ *Range***	**N**	**M (SD) /*Range***
Age	90	5.7 (.3) Range: 17 months	100	12.7 (.5) Range: 17 months
Gender (boys/girls)	90	45 boys/ 45 girls	100	57 boys/ 43 girls
Attended preschool (yes/no)	81	78 yes/3 no	87	81 yes/ 6 no
Kurdish/Tatar background	90	7	100	1

It is worth noting that Eight children with Kurdish/Tatar background are included.

Parents. Table 2 presents demographic information concerning the parents.

Table 2. *Demographic information on the parents*

Variable	**Cohort 1**		**Cohort 2**	
	N	**M (SD)**	**N**	**M (SD)**
Age (Mother/father)	90	34.4 (5) / 38.4 (7)	100	39 (5) / 42 (6.6)
Household (single/two parent)	90	6 single / 84 two-parent	100	10 single / 90 two-parent
Residence	190	70 % in Oslo, 21% in Drammen, 9% in urban areas around Moss, Bergen and Stavanger.		

Instruments

Data used in the present study was collected through five instruments: Mother's interview, mother's questionnaire, father's questionnaire (Appendix B) and two vocabulary tests. The scoring sheets of the vocabulary tests are found in Appendix G, and these are described more thoroughly later in the chapter. Mother's interview included questions about employment, education, income and age of migration for both parents. Mother's questionnaire included questions regarding literacy activities for both parents, the child's preschool-attendance, and mother's language use and language attitudes. Father's questionnaire included questions about father's language use and language attitudes. All the variables and their corresponding scoring scales are listed in Table 3, at the end of the chapter.

Norwegian expressive vocabulary. The children's vocabulary skills in Norwegian were assessed by the *Expressive* One-Word Vocabulary Test – EOWPVT (Brownell, 2000), in which *expressive* means the ability to use/produce words. In this test, colorful pictures are

shown on a computer screen, and the child is asked to name the object/activity/action/ concept. The test is untimed, and the basal/ceiling rules of the original test were used in the present study. The test is intended to *increase* in difficulty level, so that the easiest item is administered at the beginning, and the most difficult towards the end. EOWPVT was originally normed on a North-American monolingual sample. The test was translated to the Norwegian context for the purpose of the present study, by requesting the children to respond in Norwegian, and by replacing one of the items of the test (Map of Norway replaced map of United States). The translated version has not been re-normed on a Norwegian population. However, internal consistency of the vocabulary scale was calculated on the basis of the present sample, and revealed satisfactory levels (cohort 1: Cronbach's alpha = .988 N = 98, cohort 2: Cronbach's alpha = .663, N = 140).

Turkish receptive vocabulary. Turkish *receptive* vocabulary skills were assessed with the Peabody Picture Vocabulary Test, Fourth Edition –PPVT (Dunn & Dunn, 2007), in which *receptive* means the ability to comprehend words. In this test, four illustrations are presented on-screen, and a recorded voice/a test administrator provides a stimulus word. The child is asked to point at the illustration corresponding to the stimulus word, and the child has a 25% chance of giving correct response. The test is untimed, and comes in two parallel forms, of which form A was used in the present study. As for the EOWPVT, the PPVT *increases* in difficulty level, based on its original standardization with a North American monolingual population. A German linguist working with Turkish immigrants in Germany translated and age-determined the items of the test (Glück, 2009), and created shortened versions of the original test. The test was not re-normed in a Norwegian context. However, internal consistency was calculated on the basis of the present sample, and revealed satisfactory results (cohort 1: Cronbach's alpha = .849, N = 156, cohort 2: Cronbach's alpha = .864, N = 133).

Data collection

Data was collected during visits to the families' homes. Home visits implied that all children and parents were assessed/interviewed within settings, which were familiar to them. Two research assistants were present during each home visit. One worked with the child, while the other interviewed the mother. The research assistant assessing the child was of majority Norwegian background, unless the parents requested a Turkish assistant. The Turkish-speaking assistants most often interviewed the mothers, and were available to assist with questionnaire-completion if needed. Most home visits lasted between two to three hours.

30 research assistants were engaged in data collection at wave 1. Approximately one third had Turkish background, were females, and fluent bilinguals. Approximately two thirds had Norwegian majority background (two males, the rest females), a couple had knowledge of Turkish. The parents often showed a natural curiosity about the origin of the research assistants of Turkish background, and the assistants' often replied to an extent as to maintain a positive rapport with the family. If approved by the research assistant, the families could ask to be visited by a particular assistant, as some families felt most comfortable being visited by someone they knew.

Being in the families' homes posed some challenges. Even though the assistants were instructed to suggest separate rooms when assessing the child and interviewing the mother, and to ask the father not to be present during mother's interview, this was not always possible or approved. Hence, the convenience offered to the families potentially contributed to variability in the research settings.

The children were assessed on the vocabulary tests, a number of cognitive tests, and they were interviewed (Appendix C: list of assessment). Breaks could be given during and between tests. The Turkish vocabulary test (PPVT) was administered at the beginning or at the end, as to separate it from the Norwegian tests. The Norwegian vocabulary test could be administered anytime during assessment.

Ethical considerations

The Regional Committee For Medical and Health Research Ethics approved the project (Appendix D). The parents were informed that there were no negative consequences to saying no to participation or withdrawing from the study at any time. They were informed about the project thorough SIMCUR's information material. Additionally, SIMCUR was invited to inform about the project during arrangements by Turkish organizations. Consent forms (Appendix E) were collected at the beginning of the home visits. The principles of anonymity and confidentiality were handled throughout the research process, and only the primary research team had access to identification information on the participants.

Special considerations have to be taken when conducting research on children (Backe-Hansen, 2009). Children's needs must be taken under consideration, and arranging the tests in the home environment of the children, with their parents in the near surroundings, can be seen as one way of assuring children's needs. Test results were handled as confidential data, and not shown to parents or others, in accordance with ethical guidelines (Backe-Hansen, 2009). The researchers informed the parents that in certain situations, they would be

obligated to inform The Child Welfare Authority (Norwegian: *Barnevernet*). No situations occurred during wave 1.

Special considerations need to be taken also when researching ethnic minority groups (Ingierd & Fossheim, 2010). The families are members of a large ethnic minority group in Norway, and when studied in an aggregate, such as in the present study, their anonymity is not likely to be at risk. One should bear in mind that results from large-scale studies, might be used in practical policy-making, and that the research should be beneficial for the group. It might be considered unethical *not* to conduct research on ethnic minority groups when groups experience certain challenges, and this needs to be weighed against the risk of stigmatizing an entire group (Ingierd & Fossheim, 2010). Attention on s*trengths* and *resources*, instead of weaknesses and 'deficits' among the participants, taps into a more general ethical consideration of research (Prilleltensky & Nelson, 2005), and this should be borne in mind when presenting results and in the discussion of the research. Further, ethical considerations concerning the participants' opportunities to themselves define and decide which issues to be addressed by the research, must also be considered during the process (Prilleltensky & Nelson, 2005; Trøften, 2010). Retrospective evaluations of the present study should therefore take into account and listen to the *participants'* opinions about the study.

Analytic strategy

On the basis of the three research questions (p. 3), SIMCUR created a SPSS data file with all relevant data for the present study. The file was investigated thoroughly by me, to detect potential errors. Values changed in this process, were approved by SIMCUR. IBM SPSS Statistics Version 20 was used for the analyses. All variables were examined according to kurtosis- and skewness-values. Values of +/- 1.0 are reported in the results, as these values were seen as deviations from a normal distribution (Field, 2009). In addressing research question 1 several analyses were conducted: Independent samples t-test was used to detect potential differences between the cohorts according to the parental characteristics and practices. Paired samples t-test was used to detect potential differences between mothers and fathers. Pearson's chi-square test (chi-square) of cross-tabulations of variables was used to determine whether variables concerning parental characteristics and practices were statistically related to each other. Pearson's correlation coefficient (Pearson's *r*) was used to further detect significant associations between variables. Cohen's terminology concerning the effect of Pearson's *r* are followed, in which *r* =.10 to .29 is *small*, *r* =.30 to.49 is *medium/moderate*, and *r* =.50 to 1 is *large/strong* (Cohen, 1988, in Pallant, 2010).

Preliminary analysis of the PPVT revealed that the scores were not normally distributed. While we know that translation procedures may alter the gradient of difficulty, deviations from normality were therefore seen as a concern, and the items of the PPVT were analyzed. An acquaintance of me as an author, with fluent knowledge of Turkish and with experience from working as an interpreter, was asked to evaluate the face validity of the translation. He investigated the Turkish translation in comparison to the English equivalents, and to the corresponding picture. Then, *item difficulty* was calculated to attain so-called *percentage-values*, to investigate whether the items increased in difficulty, as intended. Percentage-values between 0 and .20 imply high difficulty, meaning that less than 20% of the test takers respond correctly. Percentage-values between .8 and 1 imply low difficulty, meaning that more than 80% of the test-takers respond correctly. Third, *item-total correlations* were calculated, by correlating each score towards the sum-score. Medium and strong positive correlations indicate that the item manages to differentiate between test takers who perform well, and those who perform poorly, as intended by the test. Weak and/or negative correlations are seen as characteristic of items, which does not sufficiently differentiate the test takers, and these might therefore threaten the validity.

Hierarchical regression analysis was conducted to answer research question 2. The control variables, age and gender, were added in Step 1, and the four predictor variables were added in Step 2. Four assumptions underlying regression analysis as presented by Field (2009) were checked: *Independent errors*, indicated by Durban-Watson statistic between 1 and 3. *Absence of multicollinearity*, indicated by tolerance values above 0.2. *Normally distributed residuals*, indicated by distributions close to a straight line in P-P plot. *Generalizability of findings* from the model, indicated by an adjusted square close to the R^2, and by beta values lying within the 95% confidence interval. *Sample size:* the formula *50 +8k*, in which *k* is the number of predictors, was used to evaluate the appropriateness of the sample size in relation to the regression model. Deviations from these criteria are reported.

Mediation analysis was conducted by following Baron and Kenny's four steps (1986). Standard, and hierarchical regression analyses were conducted in following these four steps, and an interactive on-line calculator of the Sobel test (Preacher & Leonardelli, 2012) was then used to determine whether the mediator effects were significantly different from zero. It is acknowledged that Baron and Kenny's four steps, and the Sobel test have been objects of critique (Zhao, Lynch, & Chen, 2010). Amongst other, the Sobel test has been critiqued for being to conservative. However, as the procedures are commonly used in recent research (e.g.

Fiedler, Schott, & Meiser, 2011; Leonard & Rasmussen, 2011), they are applied in the present study.

Variables and values

In Table 3 all the variables used in the present study are listed.

Table 3. *Variables, scoring scales and transformed scoring scales.*

Variable-name	**Variable type**	**Original scoring scale**	**Transformed scoring scale (used in chi-square tests)**
Highest level of education *	Predictor	0: no education, 1: primary school, 2: lower secondary, 3: upper secondary, 4: tertiary less than 4 years, 5: tertiary more than 5 years, 6: PhD	1: < upper secondary, 2: upper secondary, 3: > upper secondary
Age of migration	Predictor	Continuous	1: <7, 2: 7-18, 3: >18
Length of residency	Descriptive	Continuous	
Income	Descriptive	1: no income, 2: <50.000, 3: 50-100.000, 4: 100-200.00, 5: 200-300.000, 6: 300-400.000, 7: 400-500.00, 8: 500-750.000, 9: 750-1.000.000, 10: > 1.000.000	
Employment	Descriptive	0: unemployed, social welfare or home-maker, 1: employed	
Language use with child	Mediator	1: only Turkish, 2: mostly Turkish, 3: Norwegian and Turkish equally, 4: mostly Norwegian, 5: only Norwegian	1: more Turkish than Norwegian, 2: Turkish and Norwegian equally, 3: more Norwegian than Turkish
Language use with partner	Mediator	1: only Turkish, 2: mostly Turkish, 3: Norwegian and Turkish equally, 4: mostly Norwegian, 5: only Norwegian	1: ONLY Turkish, 2: mostly Turkish, 3: Turkish and Norwegian equally or more Norwegian
Importance of child speaking Turkish/Norwegian	Mediator	1: not important, 2: a little important, 3: somewhat important, 4: very much important	
Number of children's books in the household	Mediator	1: <10, 2: 10-30, 3: >30	
Frequency of reading for child (C1)/ Frequency of talk about children's books with child (C2)	Mediator	1: once a month or less, 2: once a week, 3: several times a week, 4: every day	
Children's Norwegian vocabulary: EOWPVT	Outcome	Lowest score: 0. Highest score: 170	
Children's Turkish Vocabulary: PPVT	Outcome	Cohort 1: Lowest score: 0. Highest score: 157. Cohort 2: Lowest score: 0. Highest score: 133.	

* International Standard Classification of Education, 1997 (OECD, 1999)

Results

In the present chapter, the results are presented. Note that N is listed along all variables, due to that N varies (minimum – maximum N in cohort 1: 63-90, in cohort 2: 71-100).

Research question 1: Descriptive statistics

Research question 1 asks: "How is the sample of immigrant parents from Turkey characterized according to the predictor- and mediator-variables? How are these variables associated? "Descriptive statistics are needed to fully address this question.

Children's age when starting preschool are presented in Table 4.

Table 4. *Child's age when starting preschool (Preschool-attendance)*

Variable	**Cohort 1**		**Cohort 2**	
	N	**M (SD)/ *Range***	**N**	**M (SD) /*Range***
Age when starting preschool	78	2.86 (.85)	81	3.1 (1.1)

Independent sample t-test revealed no significant differences between the cohorts according to the child's age when starting preschool.

The characteristics of the cohort 1 parents (Table 5) resemble the cohort 2 parents (Table 6).

Table 5. *Descriptive statistics for cohort 1 parents*

	COHORT 1					
Variable	**N**	**Mother**	**Skew/*Kurt.***	**N**	**Father**	**Skew/*Kurt.***
Age of migration	89	17 (7)		89	18 (8)	
Education	87	2.5 (1.3)		86	2.7 (1.4)	
Employment	87	60 %		84	84 %	
Household-Income **(median)**	90	6.6* (1.6) **(7)**				
Language use with child	86	2.2 (.8)		63	2.3 (.8)	*1.02*
Language use with partner	84	1.6 (.6)		64	1.5 (.7)	1.23/*1.47*
Importance of child speaking Turkish	85	3.6 (.6)	-1.27	63	3.7 (.6)	-1.42/ *1.12*
Importance of child speaking Norwegian	86	3.9 (.3)	-2.26*/3.21*	63	3.8 (.4)	-1.91/*1.71*
Number of children's books	79	2* (.8)	*-1.24*			
Frequency of reading for child	81	2.6 (1)	*-1.44*	73	2 (1)	*-1.29*
Length of residence	89	17.7 (8.4)		89	19.8 (8.4)	

Table 7. *Descriptive statistics for the cohort 2 parents*

	COHORT 2					
Variable	**N**	**Mother**	**Skew/Kurt.**	**N**	**Father**	**Skew/Kurt.**
Age of migration	96	17.4 (7.4)	*1.53*	96	18.7 (7.4)	
Age	100	38.9 (5)		100	42 (6.6)	1.0/*1.56*
Education	98	2 (1.3)	1.12	91	2.34 (1.2)	
Employment	98	52 %		91	70 %	
Household-Income **(median)**	100	6.3* (1.6) **(6)**				
Language use with child	94	2.3 (.8)		71	2.3 (.8)	
Language use with partner	86	1.5 (.6)		71	1.6 (.6)	
Importance of child speaking Turkish	95	3.7 (.6)	-1.93/*3.8*	71	3.5 (.6)	-1.35/*2.09*
Importance of child speaking Norwegian	95	3.9 (.3)	-2.8/*6.03*	70	3.8 (.5)	-3.68/*17.09*
Number of children's books	87	2.2* (.7)				

Frequency of talk about children's books	87	2.2* (.9)		
Length of residence	96	21.4 (6.7)	96	23.4 (7.8)

* Information only offered by the mothers

Averagely low SES in both cohorts, but lowest in cohort 2. Averagely low SES is seen according to all SES criteria: educational level, employment rate and income. Average educational level falls between education category 2 (lower secondary school) and 3 (upper secondary education). This is low relative to the general Norwegian population. Average and median income *pre-tax* falls between income category 6 (300-400.000) and 7 (400-500.000). The income level in the sample is low, relative to the median income-level in the general Norwegian population. However, 10% of the families are single-parent household, and the numbers are therefore not directly comparable to the median income in *couples* in the general population. Additionally, the income reported in the present study, are *pre*-tax, while income reported in national statistic is after tax. Employment in the sample is low compared to the general population, spanning from 52 to 84%.

Mixture of language use, positive attitudes to both languages, and non-normality. These measures are based on parental self-report, and there might be a discrepancy between report and actual use. However, in the following, their *reported language use* will be referred to as *language use*. Language use with child falls between category 2 (mostly Turkish) and 3 (Norwegian and Turkish equally). However, the average level is closer to category 2 than 3. Language use with partner falls between category 1 (only Turkish) and 2, indicating that more Turkish is used with partner. Norwegian is rated slightly more important than Turkish, but both languages are rated close to the highest attitude category (4: very much important). All the attitude variables are non-normally distributed with negative skews, indicating that parents score at the high end of the scale. The literacy measures are non-normally distributed in cohort 1. 30% of cohort 1 and 17% of cohort 2 families has less than 10 children's books, while 27% of cohort 1 and 37% of cohort 2 families have more than 30. Frequency of reading for the child is once a month or less for 47% of the fathers and 22% of the mothers. 21% if the mothers and 7% of the fathers read for the child every day. Frequency of talk about children's books is once a month or less in 28% of the families, and only 8% talk about children's books every day.

Differences between mothers and fathers, and between cohorts

Differences between mothers and fathers, and between cohorts were detected, and these are of relevance when interpreting findings in research question 2 and 3.

Differences between mothers and fathers: 1. Higher education among the fathers. Cohort 1 fathers (M = 2.73, SE = .13) had higher education than the cohort 1 mothers (M = 2.44, SE = .14), t (84) = - 2.1 p = .037. The same was true fore the cohort 2 fathers (M = 2.34, SE = .12) according to the cohort 2 mothers (M = 1.92, SE = .12), t (90) = -3.04, p < .01.
2. Higher employment rate among the fathers. Cohort 1 fathers were more often employed (M = .84, SE = .03) than the cohort 1 mothers (M = .60, SE = .05), t (83) = -3.55, p < .01. The same was true for the cohort 2 fathers (M = .70, SE = .04) according to the cohort 2 mothers (M = .50, SE = .05), t (90) = -3.05, p < .01.
3. More reading by mothers. 'Book reading' (only cohort 1) is done more frequently by the mother (M = 2.58, SE = .12) than by the father (M = 1.99, SE = .12), t (72) = 5.11, p < .01.

Differences between the cohorts: 1. Longer residence in cohort 2: Mothers in cohort 2 have longer length of residence (M = 21.39, SE = .68), than the cohort 1 mothers (M = 17.7, SE = .89), *t* (183) = -3.285, *p* = .001. Cohort 2 fathers have longer length of residence (M = 23.4, SE = .79), than the cohort 1 fathers (M = 19.8, SE = .89), *t* (183) = -3.018, *p* = .003. This is not surprising due to that the cohort 2 parents have older children than the cohort 1 parents. Age of migration, which is the main focus in this study, does not differ across cohorts.
2. Higher educated parents in cohort 1: Cohort 1 fathers have higher education (M = 2.5, SE = .14) than the cohort 2 fathers (M = 2.34, SE = .13), *t* (175) = 2.01, *p* = .045. Cohort 1 mothers also have higher education (M = 2.5, SE = .14) than cohort 2 mothers (M = 2.0, SE = .13), *t* (183) = 2.38, *p* = .018.
3. More employed fathers in cohort 1: Cohort 1 fathers are more often employed (M = .84, SE = .03) than cohort 2 fathers (M = .70, SE = .04), *t* (173) = 2.25, *p* = .025.
4. More children's books in cohort 2: Cohort 2 mothers report more children's books in the household (M = 2.2, SE = .07) than the cohort 1 mothers (M = 1.9, SE = .08), *t* (164), = -2.04, *p* = .043. This is not surprising, due to that books tend to accumulate during childhood.

Associations between the predictors and the mediators

In Table 7 the bivariate correlations among the predictor- and mediator variables are presented. The table is of such as size that a few variables needed to be left out. Hence, correlations regarding employment, income, and frequency of father's reading are found in Appendix F. A few bivariate correlations are elaborated in the following. Some of these associations are further tested by chi-square test of the *transformed variables*, which only includes three categories, as listed in Table 3, and by cross-tabulating mother- and

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	**Mother's age of migration**														
2.	**Father's age of migration**	Non sig *Non sig*	-	-											
3.	**Mother's education**	Non sig *Non sig*	Non Sig *Non sig*												
4.	**Father's education**	Non sig *Non sig*	Non sig *Non sig*	.511** *.427***											
5.	**Mother's language with child**	-448** *-.299***	Non sig *Non sig*	Non sig *.338***	Non sig *Non sig*										
6.	**Father's language with child**	Non sig *-.266**	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	456** *Non sig*									
7.	**Mother's language with partner**	Non sig *Non sig*	Non sig *-.312***	Non sig *Non sig*	Non sig *Non sig*	.507** *.304***	.396** *.253**								
8.	**Father's language with partner**	-.293* *-.248**	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	.252* *.326***	.423** *.478***	.454** *.313***							
9.	**Mother: Turkish important**	Non sig *Non sig*	Non sig *-.308***	Non sig *-.290***	Non sig *Non sig*	Non sig *-.301***	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*						
10.	**Father: Turkish important**	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	-.368** *Non sig*	Non sig *Non sig*	Non sig *Non sig*	.467** *Non sig*					
11.	**Mother: Norwegian important**	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	.520** *.470***	.364** *Non sig*				
12.	**Father: Norwegian important**	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	.363** *Non sig*	.421** *.524***	Non sig *Non sig*			
13.	**Number of children's books**	Non sig *Non sig*	Non sig *Non sig*	.320** *.262**	.261* *Non sig*	Non sig *non sig*	Non sig *.217**	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*		
14.	**Frequency of mother reading/ talk[1]**	Non sig *Non sig*	Non sig *Non sig*	.244* *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	.363** *Non sig*	.284* *Non sig*	Non sig *Non sig*	Non sig *Non sig*	.271* *Non sig*	
15.	**Child's age when starting preschool**	Non sig *Non sig*	Non sig *-.284**	Non sig *-.373***	-.319** *-.344***	Non sig *-.321***	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *Non sig*	Non sig *-.255***	Non sig *-.351***

Table 7. *Bivariate correlations among the predictor- and mediator variables*, Cohort 1 / *cohort 2*

[1] frequency of talk about children's books (cohort 2) * p <.05, ** p <.01

father's scores. It is acknowledged that 10% of the sample consists of single-parent households, and that the children of these households do not experience the intersections of the parents characteristics in their daily lives. However, as most of the children do, cross-tabulations seem to contribute meaningful information about the children's family context. Note that in the percentages along *each row* of Table 8 to Table 11 sum up to 100%.

Mother and father's age of migration. The non-significant bivariate association between mother and father's age of migration seen in Table 7, is partly countered by a significant association according to chi-square test for the cohort 1 parents, as is seen in Table 8.

Table 8. *Cross-tabulation of mother/ father's age of migration*

Cohort 1 ***Cohort 2***		**Father's age of migration** 1. Age: 0-6.9	2. Age: 7-17.9	3. Age: 18-50	Sum
Mother's age of migration	1.	8.3% ***0%***	33.3% ***9.1%***	58.3% ***90.9%***	100%
	2.	0% ***11.1%***	7.7% ***18.5%***	92.3% ***70.4%***	100%
	3.	9.8% ***8.8%***	62.7% ***38.6%***	27.5% ***52.6%***	100%
X^2		(4) = 29.5, $p < .01$ (N = 89) ***(4) = 8.01, p = .09 (N = 95)***			

In both cohorts it is usual that one partner migrated *after* the age of 18, while the other migrated *before* the age of 18, hence the significant chi-square association in cohort 1. This pattern is somewhat less clear in cohort 2. If a cohort 1 mother migrated after the age of 18, only 27.5% of their partners did the same. The corresponding number in cohort 2 is 52.6%.

Parental age of migration is not significantly related to any of the SES variables, indicating that being raised in Norway does not increase the likelihood of high SES.

Mother and father's education. The positive correlation between mother and father's education (Table 7) indicates that educational resources are somewhat allocated within certain couples. It is likely to marry a spouse at the corresponding educational level. This is also indicated by chi-square test, as seen in Table 9. In the cases in which the mother is educated at primary level, more than 70% of the fathers are also educated at this level.

Table 9. *Cross-tabulation of mother/father's education*

Cohort 1/ ***Cohort 2***		**Father's education** 1. Primary education	2. Upper secondary	3. Tertiary	Sum
Mother's education	1.	73% ***78.8%***	24.3% ***19.2%***	2.7% ***1.9%***	100%
	2.	42.4% ***65.5%***	48.5% ***31%***	9.1% ***3.4%***	100%
	3.	6.7% ***30%***	46.7% ***30%***	46.7% ***40%***	100%
χ^2		(4) = 29.7, $p < .01$ (N = 85) ***(4) = 23.3, p <.01 (N = 91)***			

In the cases in which mother is educated at tertiary level, more than 40% of the fathers are also educated at this level. However, if the mother is educated at primary level, only 1.9-2.7% of the fathers are educated at tertiary level. Parental education does not correlate with employment among all groups of parents. For the cohort 1 mothers and the cohort 2 fathers, education and employment are not significantly related (Appendix F), indicating that higher education does not increase the likelihood of being employed for these parents.

Language use and attitudes. Language use with the child by the mother is influenced by mother's age of migration. A mother who migrated early uses more Norwegian than a mother who migrated later in life. The same is not true for the fathers (Table 7). And, a highly educated cohort 2 mother is likely to use more Norwegian with her child than a low educated cohort 2 mother. The same is not seen in cohort 1, or among the fathers. Language use with the child is presented in Table 10.

Table 10. *Cross-tabulation of mother/father's language with child*

		Father's language with child			
		1. Only Turkish or mostly Turkish	2. Turkish and Norwegian equally	3. Mostly Norwegian or only Norwegian	Sum
Mother's language with child	1.	81.4% ***75%***	11.6% ***20%***	7% ***5%***	100%
	2.	50% ***52%***	37.5% ***36%***	12.5% ***12%***	100%
	3.	0% ***75%***	66.7% ***25%***	33.3% ***0%***	100%
χ^2		(4) = 12.9 p = .012 (N = 62) ***(4) = 4.1, p = .39 (N = 69)***			

In cohort 2, mother and father's language use with the child is *not* significantly associated according to chi-square. This indicates that the cohort 2 partners are likely to differ somewhat according to language use. In the cases in which the cohort 2 mothers speak mostly Norwegian with the child, 0% of the fathers do the same. The corresponding number in cohort 1 is 33.3%. Language use with the *partner* indicates more use of Turkish than Norwegian, and the variables were therefore transformed differently (Table 11).

Table 11. *Cross-tabulation of mother/father's language with partner*

Cohort 1/ ***Cohort 2***		**Father's language with partner**			
		1. ONLY Turkish	2. Mostly Turkish	3. Turkish and Norwegian equally or more Norwegian	Sum
Mother's language with partner	1.	75% ***58.8%***	21.9% ***41.2%***	3.1% ***0%***	100%
	2.	36.7% ***33.3%***	63.3% ***66.7%***	0% ***0%***	100%
χ^2		(2) = 11.3, p = .003 (N = 62) ***(1) = 4.4, p = .036 (N = 67)***			

It does not occur that both partners within a couple use Turkish/Norwegian equally, or more Norwegian, with their partner, as occurred according to language use with child. In the cases in which the cohort 1 mother uses only Turkish, the same is true for 75% of the fathers. The corresponding number in cohort 2 is somewhat lower, at 58.8%. Again, this might indicate some discrepancies among the cohort 2 parents, though their language use with partner is significantly associated according to the chi-square.

Literacy activities and preschool-attendance. Father's education is associated with the child's preschool-attendance in both cohorts. Also, for the cohort 2 fathers, age of migration is related to preschool age. Taken together, this means that a cohort 2 father with higher education and/or who migrated late in life is likely to enrol the child in preschool at an early age. Mother's education is associated with the number of children's books in both cohorts. The same is true for the cohort 1 fathers. A mother and a cohort 1 father with higher education are likely to live in households with many children's books. A cohort 1 mother with higher educational attainments is also more likely to read often for her child. As is the cohort 1 father with higher education ($r = .299$, $p < .01$, Appendix F). Frequency of talk about children's books on the other hand (cohort 2) is not significantly associated with any of the predictor- or mediator variables.

Concluding remarks research question 1

The average level of the three SES indicators is low, independent of the parents' age of migration. Children of the present sample are likely to grow up in a family context in which one of the parents has their primary education from Turkey, and in which the parents have a generally low SES level when compared to the majority population. The children in cohort 1 are likely to experience a generally higher SES level among their parents than the cohort 2 children. And, all groups of children are likely to have a father with higher education than the mother. The parents use a mixture of Turkish and Norwegian with their child, in which cohort 2 couples seem to use somewhat different amount of Norwegian/Turkish. Most parents state that both Norwegian and Turkish are important for their child, irrespectively of education, or age of migration. A highly educated father is likely to enrol the child in preschool at an early age, while a highly educated mother is likely to report many children's books. The children were on average enrolled in preschool around the age of three.

Research question 2: Vocabulary scores, item- and preliminary -analyses

Research question 2 asks: "Do parental age of migration and/or education predict the children's bilingual vocabulary? If so, which is the strongest predictor?" Before embarking

on this question, information on the vocabulary scores, results from the item-analysis of the PPVT, and bivariate correlations between the variables are presented.

Vocabulary scores. The vocabulary scores in both cohorts are presented in Table 12.

Table 12. *Descriptive statistics for the vocabulary measures*, Cohort 1/**cohort 2**

	N	Min - maximum	M	SD	Skewness	Kurtosis
PPVT cohort 1	72	4 - 105	47	27		1.080
PPVT cohort 2	***98***	***22 - 106***	***78***	***18.7***	***-.1.138***	
EOWPVT cohort 1	84	6 - 61	33	13.3		
EOWPVT cohort 2	***94***	***35 - 117***	***77***	***15.2***		

The EOWPVT scores are normally distributed, while the PPVT scores are not. Large standard deviations and ranges indicate high variability in the children's scores.

Item-analysis of PPVT. The scoring sheets, including each item's item difficulty score (percentage-value), and the number of test takers who met the ceiling at which level, are found in Appendix G. On these scoring sheets, are also listed the items, which were detected as deviating from the equivalent in the original English version. Results from the item-analyses are presented in Table 13.

Table 13. *Item-analysis of the PPVT for both cohorts*

	COHORT 1 (Test: 157 items)	**COHORT 2** (Test: 133 items)
High item-difficulty (items with percentage-values 0 – 0.2)	44.6% (70 items)	15.8% (21 items)
Low item-difficulty (items with percentage-values 0.8 – 1)	3% (5 items)	28.5% (38 items)
Items with negative item-total correlations	1.2% (2 items)	6% (8 items)
Items with weak item-total correlations: (r = .000 - .299)	30% (46 items)	44% (58 items)
Test-takers reaching the ceiling	80.5% (58 children)	15.8% (16 children)
Items proposed as misleadingly translated	2.5% (4 items)	2.2% (3 items)

As seen in Table 13, challenges of the tests' validity were detected in both cohorts.

Cohort 1. Note that only 72 cohort 1 children were assessed on the test. Hence there are 18 missing when compared to the total N. 44.6% of the items were responded correctly by less than 20% of the test takers. This is especially low, considering the 25% probability of attaining correct a response in this test. Many children met their ceiling early in the test, and only 19.5% of the children went through the whole test without reaching ceiling. Children that reached a certain level in the test also reached several items with low item difficulty in the last sections of the test. Low item difficulty in the later sections of the test was marked by that more than 80% of the children that were assessed at this level, managed the item. In the cases in which these items were also used in the cohort 2-test, these items were responded

correctly by between 90 and 99% of the total cohort 2 test takers, indicating that these items were easy across ages, even though placed towards the end in the tests. The difficulty level does not increase consistently, but rather follows an uneven pattern (Appendix G). Item-total correlations indicated that a large amount of items did not sufficiently differentiate between the test takers performing well and those performing poorly.

Cohort 2. In cohort 2 a reverse pattern is seen in the item-analysis. 84.5% of the children went through the whole test without reaching their ceiling, and the ones who reached ceiling, did so in the latter part of the test. 28.5% of the items proved to be *easy* for the children, responded correctly by more than 80% of the test takers. These items are spread throughout the test, implying that the difficulty level does not increase consistently. As in the cohort 1 test, total-item correlations indicate that many items did not differentiate the group.

Bivariate correlations concerning the vocabulary scores. Bivariate correlations between the vocabulary scores and the predictors, control variables, and some of the mediator- and descriptive variables are seen in Table 14. Note that some of the mediators are left out of the table. None of those variables were significantly associated with the vocabulary measures. Additional correlations are found in Appendix F.

Table 14. *Bivariate correlations towards the vocabulary scores (the outcome variables)*

	COHORT 1		**COHORT 2**	
	EOWPVT	**PPVT**	**EOWPVT**	**PPVT**
Predictors				
Mother's age of migration	-.436**	-.016	.016	.253*
Father's age of migration	.211	-.117	.136	-.125
Mother's education	.418**	.160	.350**	-.069
Father's education	.362**	.169	.361**	.256*
Control				
Child's age	.159	.262*	-.017	.128
Child's gender	-.155	-.127	.056	.014
Mediators				
Preschool-age	-.387**	.160	-.327**	.045
Number of children's books	.361**	.031	.211	.145
Reading by mother	.175	.98	-	-
Reading by father	.097	.160	-	-
Talk about books	-	-	.105	.07
Mother's language with child	.305**	-.187	.049	-.146
Father's language with child	.299**	-.042	.189	-.219
Descriptive				
Mother's employment	.350**	.150	.203	-.008
Father's employment	.101	.036	.183	.145
Income	.250*	.085	.302**	.027
Outcome				
PPVT	.033		.299**	

** $p < .01$, * $p < .05$.

The most striking characteristic of Table 14 is that few variables are significantly associated with the children's Turkish vocabulary scores (PPVT). It is also worth noting that the children's Norwegian vocabulary scores (EOWPVT) are associated with parental income and employment. This suggests that not only parental education and/or migration status influence the children's vocabulary scores in the present sample, but also indicators of economic capital. The younger children's Norwegian vocabulary scores are associated with book reading, children's books, and parental language with child, while the older children's Norwegian vocabulary is not. Further, the Norwegian skills of both cohorts are negatively associated to preschool age. This means that the likelihood of high score on the Norwegian vocabulary score increases if enrolled in preschool at an early age. The vocabulary scores in both languages are significantly and positively associated only among the older children.

Prediction of the dominant language: Norwegian vocabulary (EOWPVT).

The Norwegian vocabulary scores (EOWPVT) are the outcome variable in Table 16.

Table 16. *Hierarchical multiple regression analysis, EOWPVT.*

EOWPVT	**COHORT 1**			**COHORT 2**		
	B	SE	Beta	B	SE	Beta
Constant	-4.13	23.47		12.76	57.84	
Step 1						
Child's age	.45	.34	.13	.31	.37	.09
Child's gender	-3.83	2.38	-.15	-.22	3.53	.01
Step 2						
Mother's age of migration	-.72	.16	-.42**	-.04	.23	-.02
Father's age of migration	-.11	.15	-.07	.27	.23	.13
Mother's education	2.05	1.12	.21	2.72	1.49	.21
Father's education	2.88	1.14	.28*	3.66	1.48	.29*
R^2 (Step 1 and 2)	.43			.20		
Adjusted R^2	.38			.13		
ΔR^2 (From Step 1 to Step 2)	.37, *F change* (4, 72) = 11.74, *p* <.01			.19, *F change* (4, 75) = 4.52, *p* = .003.		
N	**79**			**82**		

**< .01, *<.05

Cohort 1. Adding the predictors to the model increases the amount of explained variance significantly with 37%. Mother's age of migration is the strongest predictor (Beta: -.42, *p* <.01), followed by father's education (Beta: .28, *p* =.014). The adjusted R^2 is close to the R^2.

Cohort 2. The predictors contribute significantly with 19% of the explained variance, while the total model contributes only slightly more, at 20%. The adjusted R^2 is considerably lower than the R^2. Father's education is the only and the strongest predictor (Beta: .29, *p* = .016).

Concluding remarks: Norwegian vocabulary

The model fits cohort 1 better than cohort 2. In cohort 1 mother's age of migration is the strongest predictor of Norwegian vocabulary scores, while father's education also plays a significant role. Among the older children, the model explains less of the variance seen, and father's education is the sole predictor contributing significantly in explaining the variance. However, in this cohort the generalizability of the model is low. The sample in the regression model does not reach the suggested size of N = 92.

Prediction of the dominated language: Turkish vocabulary (PPVT)

To answer research question 2, hierarchical regression analysis was conducted. Results in which the Turkish vocabulary scores are the outcome, are presented first (Table 15).

Table 15. *Hierarchical multiple regression analysis PPVT.*

PPVT	**COHORT 1**			**COHORT 2**		
	B	SE	Beta	B	SE	Beta
Constant	-76.55	59.71		-28.35	69.26	
Step 1						
Child's age	1.98	.86	.28*	.60	.44	.14
Child's gender	-6.72	6.36	-.12	1.28	4.22	.03
Step 2						
Mother's age of migration	-.21	.46	-.06	.63	.28	.26*
Father's age of migration	-.66	.43	-.20	-.30	.28	-.12
Mother's education	5.60	3.08	.26	-2.19	1.84	-.14
Father's education	.13	3.02	.01	4.86	1.82	.32**
R^2 (Step 1 and 2)	.16			.18		
Adjusted R^2	.08			.11		
ΔR^2 (From Step 1 to Step 2)	.08, *F change* (4, 62) = 1.40, *p* = .24			.17, *F change* (4, 78) = 3.96, *p* = .006.		
N	68			85		

**p<.01, *p<.05

Cohort 1. When adding the predictors to the regression model, the amount of explained variance does not change significantly. This means, that none of the predictors significantly contribute in explaining variance in Turkish vocabulary scores, and that only the control variable age contributes significantly in the model. While the total model explains 16% (R^2) of the variance, the predictors only contribute with explaining 8%. Additionally, the adjusted R^2 of the model is considerably lower than the R^2, and N is low (N = 68).

Cohort 2. Adding the predictors to the model increases the amount of explained variance significantly. The total model explains 18% of the variance in the scores, primarily by the predictors. Father's education is the strongest predictor (Beta: .32, *p* = .009), and mother's age of migration is the second strongest predictor (Beta: .26, *p* = .024). However, the adjusted

R^2 deviates from the R^2. Hence, in a different sample, other findings are likely to be found. The distribution of the residuals deviates from the normal distribution according to the P-P plot, which means that the residuals are not distributed evenly across the test scores.

Concluding remarks research question 2: Turkish vocabulary.

The model fits the cohort 2 children better than the cohort 1 children. Only age predicts the youngest children's scores. 18% of the older children's Turkish vocabulary scores are predicted by the model, in which father's education and mother's age of migration contribute significantly. However, three cautions must be mentioned: The adjusted R^2 deviates from the R^2 , the residuals are not normally distributed, and the number of N in both cohorts, is lower than the N suggested by the formula 50 + (6x8) = 92.

Research question 3: Test of mediation effects.

Research question 3 asks: "If significant predictions are found in research question 2: Do the mediators (parental language use, language attitudes, literacy activities and the child's preschool-attendance), mediate the relationship between the predictor- and the outcome-variables?" On the basis of fulfilment of the four criteria listed in the four steps of Baron and Kenny (1986), and by calculations of the Sobel test, several mediation effects were found. However, no mediation effects were found according to the Turkish vocabulary scores.

Cohort 1.

Father's education – preschool age –and Norwegian vocabulary. Father's education significantly predicted Norwegian vocabulary, $\beta = .362$, $p < .01$. Controlling for the child's age when starting preschool, father's education was not significantly related to the Norwegian vocabulary scores, $\beta = .219$, $p = .058$. However, the beta value of father's education is not fully reduced. Sobel test revealed that the meditation effect was significant, $z = 2.24$, $p = .03$.

Mother's education – number of children's books – and Norwegian vocabulary. Mother's education significantly predicted the Norwegian vocabulary scores, $\beta = .418$, $p < .01$. After controlling for the child's age when starting preschool, mother's education still contributed significantly, $\beta = .335$, $p < .01$, though the effect was somewhat reduced. The partial mediation by number of children's books was statistically significant, according to the Sobel test, $z = 2.19$, $p = .030$.

Mother's age of migration – language use with child – and Norwegian vocabulary.

Mother's age of migration significantly predicted the Norwegian vocabulary scores, β = -

.437, p <.01. Controlling for mother's language use with the child, mother's age of migration still contributed significantly, β = -.315, p =.01, though this effect was reduced. The partial mediation by mother's language use with child was statistically significant, according to the Sobel test, z = -2.15, p = .015.

Cohort 2

Mother's education - child's age when starting preschool - Norwegian vocabulary. The influence of mother's education on the EOWPVT is significant, β = .350, p < .01. When controlling for the child's age when starting preschool, the effect of mother's education is still significant, but somewhat reduced, β = .246, p < .05. The partial mediation effect was significant according to the Sobel test, z = 2.23, p = .022.

Father's education – child's age when starting preschool – Norwegian vocabulary. The influence of father's education on the EOWPVT is significant, β = .361, p < .01. When controlling for the child's age when starting preschool, the influence is not significant, β = .208, p = .095. The partial mediation effect was significant according to the Sobel test, z = 2.14, p = .032.

Concluding remarks research question 3.

The child's preschool-attendance partly mediates the influence of father's education on children's Norwegian vocabulary in both cohorts. Among the younger children number of children's books mediates the influence of mother's education, while this mediator is replaced by preschool-attendance among the older children. Also, among the younger children, the effect of mother's age of migration is mediated by her language use with the child. However, it must be acknowledged that the statistical significance of the mediation effects does not prove that the mediator is a *true* mediator (Fiedler et al., 2011). It might be that the mediators are correlates of other variables (spurious mediator) or simply correlates of the Norwegian vocabulary.

Discussion

The aim of the present study was to investigate three research questions (p. 3), and to do so in light of sociocultural and conflict-theoretical constructs, and by references to the larger social context. How do the theoretical tools offer understandings to the characterizations of the sample, the prediction of the children's vocabulary scores and the mediating effects by parental practices?

The social profile of the families: stability and change.

A heterogeneous group with systematic differences. The parents in the present sample form a heterogeneous group, as is often the case in migrant minorities (E Hoff, 2012). For example, there are cases of parents having *no* education on the one hand, and parents having a PhD on the other. General descriptions of the parents as a group might therefore not fully capture this heterogeneity. It was revealed systematic differences according to education between the cohorts, i.e. higher educational level in cohort 1, and between the parents, i.e. higher educational level among the fathers. These facts must be considered when interpreting the associations among the predictor- and mediator variables. As expected, the cohort 2 parents had higher length of residence than the cohort 1 parents. However, the main focus is turned towards age of migration in the present study, and age of migration was similar across cohorts. Nonetheless, the potential effect of different length of residence also needs to be considered when interpreting the results.

General reproduction of marriage pattern and SES level. An average low SES level, and marriage migration frequently occur in the present sample. Hence, current descriptions of Turkish immigrants according to national statistics are reproduced within the present sample, and these descriptions correspond with the descriptions of the generation of Turkish labor immigrants during the 1970's (Henriksen, 2007; Henriksen et al., 2010). Considering the low SES level, it can be claimed that it *does* take time to acquire capital and to advance in the social hierarchy, as proclaimed by Bourdieu (1986). The Norwegian competence society has an average high SES level that has increased during the last decades. The immigrant parents from Turkey thus compete with a 'moving target'. This might pose challenges for acquiring and exchanging both economic and cultural capital.

Turkish culture and language are potentially reproduced across generations by continuing intra-ethnic and migration marriages. Perhaps this pattern indicates a reproduction of a value orientation towards a Turkish identity. As one of the partners in a couple is likely to have migrated after the age of 18, the parents have most likely got to know each other through the Turkish language. The children in the present study are therefore likely to grow up in home environments in which Turkish language and culture are not solely ascribed to a distant past, but rather experienced as vital aspects of at least one of their parents.

Parents most often marry spouses at corresponding educational level. It is thus likely that children of parents with higher educational attainments have one parent who attained high education within the Norwegian educational system, and one parent who attained high education within the Turkish educational system. If one accepts Cummins (2000) notion of

the presence of CALP related speech within the formal educational system, the parents with higher educational attainments might be in command of CALP related vocabularies. CALP-related words in *both* languages might potentially trickle down in kitchen-table conversations and through literacy activities in the families with parents with higher education.

The absence of an association between parental education and employment for the cohort 1 mothers and the cohort 2 fathers might indicate a misfit between cultural capital from the home country and the cultural capital within the Norwegian competence society. However, it might also potentially indicate discrimination and devaluation of the migrant minorities' resources. This points towards that the *intersection* of education and employment need to be investigated according to how parental education is associated with the mediator- or the outcome variables. Less clear-cut effects of parental education on children's language development than in the majority monolingual population, might be a potential result, as indicated by previous research (Quiroz et al., 2010; Scheele, 2010).

Language use: pattern of change. Patterns of cultural *change* are seen in the mixed language use, as has also been indicated by previous research (Dixon, Wu, et al., 2012; Oller et al., 2007; Pease-Alvarez, 2002). Hence, it might be stated that many children in the present sample have two mother tongues, as both Norwegian and Turkish are used in their homes. Informal information offered by participants, observations, and research assistants, points towards complex language usage patterns, as also indicated by the parents' self reports. The following scenario is a likely family setting: The television is tuned into a Turkish TV channel, while the radio sums in Norwegian, a big-sister is talking on the phone in Norwegian, while the father is speaking Turkish on his mobile phone, yet the mother and the six year old daughter interacts by code-switching Norwegian/Turkish.

A mother with higher educational attainments, and a mother who migrated early in life, is likely to use more Norwegian with her child, compared to a mother with lower educational attainments, and/or who migrated later in life. However, such a pattern is not found for the fathers. The fathers and the mothers might therefore adjust their language use differently, and it thus seems crucial to include information on *both* parents to reveal these differences, as also suggested by previous research (Driessen, Silk, & De Bot, 2002; Timofeeva & Wold, 2012). The higher educational attainments of the mother might be a cultural capital exchanged into quick adaption to mainstream European sociocultural activities, through the dominant language, as suggested by previous research (Umbel, Pearson, Fernández, & Oller, 1992). On the other side, it might potentially be a risk factor of

not transferring knowledge of the dominated language to the next generation. A mother who migrated early in life is likely to use more Norwegian with her child. And, interestingly, the cohort 2 fathers' language use with the child is associated with *mother's* age of migration, and not his own age of migration. Likewise, the fathers' language use with his partner is associated with *mother's* age of migration in both cohorts, but not towards his own age of migration. It seems as though a pattern of *mother's domination* according to language use occur in the present sample. This might indicate a traditional pattern of the mother being more involved in the home, and thus potentially determining practices of language use.

Developmental timing of the child (i.e. child being five or 12) does not seem to influence on the language use or the language attitudes of the parents. Similar levels of language use and ratings of languages' importance are found across cohorts. However, as older and younger siblings might be present in both the cohort 1 and cohort 2 families, it might be the developmental timing of the group of siblings as a whole, that has influenced the parents' language use and attitudes, and this factor potentially obscures changes in language use and attitudes across cohorts. Nonetheless, the cohort 2 parents potentially disagree more on language use within the couple than the cohort 1 couples. In cohort 2, mother and father's language use are not significantly associated, and it might be that differences in language use between the parents become clearer as the child grows older. Agirdag (2010) found 15 year old children to perceive their Turkish mother tongue as a hinder for academic achievements in Belgium, and Kulbrandstad and Engen (2004) suggests that the minority language might be threatened as the child advances through the formal educational system in the majority setting. It might be that cohort 2 parents' language use comes under pressure, and that differences between the parents thus are enforced during primary school.

The parents rate both Turkish and Norwegian to be of high importance for their child, potentially indicating that they themselves feel attached towards both the languages (Engen & Kulbrandstad, 2004). This might also point to that they intend to cultivate their attachment to Turkey, relatives in Turkey, and on the same time enhance their children's integration within the Norwegian society. However, as the scores on these attitude variables are non-normally distributed, social desirability of responses might have lead to a potential bias in the attitude reports. These measures were not seen as capturing meaningful variation when being associated towards other variables. Nonetheless, the scores might indicate the presence of a true belief in keeping and cultivating a bicultural identity, as was seen among high SES Cuban immigrant parents in the USA (Lambert & Taylor, 1996). While the high SES minority parents in Lambert and Taylor's study belonged to a so-called *high prestige* group

from which they could draw a belief in a bicultural identity from, the parents in the present study might be said to be located in a group with low prestige in the Norwegian context. Hence, it might be that their belief in keeping a bicultural identity is rather drawn from societal discourses, in which diversity has been linked to resources in the Norwegian society. This discourse might also have been communicated through SIMCUR's information material (Appendix A). As data is seen as constructed through interaction between researcher and participant within the constructivist paradigm, it is seen as a possibility that communication through information material contributed in influencing the responses of the participants.

Literacy activities and preschool-attendance: middle class sociocultural activities. Literacy activities and preschool-attendance are not substantially associated with age of migration, but are rather associated with parental education. It thus seems like the middle class sociocultural activities of European communities, are also acknowledged by the Turkish middle class parents. Again, a pattern emerges, revealing the importance of including *both* parents, due to that their education is somewhat differently associated with literacy and preschool-attendance. While the fathers' education is consistently associated with preschool-attendance, mothers' education is consistently associated with number of children's books. Taken together, these two factors indicates that children growing up in families with highly educated parents are likely to be enrolled in preschool at an early age, and have access to many children's books, and also being read to often by their mothers. This points towards preparation for school activities, and potential reproduction of a middle class position.

Predicting the dominant and the dominated vocabulary of the children

The vocabulary tests used in the present study are seen as measuring both CALP (i.e. school context), and BICS (i.e. home context) words, as indicated by previous research (Bialystok et al., 2012; Dail & McGee, 2011; Thurman-Moe et al., 2012). The test situation of the vocabulary tests resemble what can be characterized as a European middle class child-oriented interactional setting as described by Rogoff (2003). The vocabulary scores are thus indicators of how well the children commands the two vocabulary registers as defined by Cummins (2000), and also potentially how well they are accustomed to the test situation (Gonzalez, 2006). The tests, and the test situation might be seen as reproductions of the *researchers'* experiences on what constitutes important language skills, and what constitutes the appropriate way of measuring them. It is therefore acknowledged that the vocabulary skills of the children might not have been fully captured, if the cultural capital and the sociocultural practices within their families deviate from those of the researchers, a

suggestion that also has been posed by previous research (Shany & Geva, 2012; van Tuijl, Leseman, & Rispens, 2001).

According to the mediation effects revealed in research question 3, it is acknowledged that mediation analysis cannot determine the causal relationships between the variables. Spurious mediators and co-correlates might underlie the mechanisms (Fiedler et al., 2011).

Prediction of the vocabulary scores in the dominant language (EOWPVT).

Cohort 1. Mother's age of migration influences the children's Norwegian scores through her use of more Norwegian if migrating at an early age. Hence, age of migration and language use has the same effect on children's language skills in the majority language, as seen a group of *low SES* Cuban immigrant families in Lambert and Taylor's North-American study (1996). These mothers who belonged to a group of so-called low prestige (i.e., labor immigrants migrating from Cuba *prior* to the Cuban revolution) adjusted their language use to the majority language (i.e. English) as their length of residence increased. And, their children's skills in the English language expanded thereafter. This also seems to be the case in the present study. However, in Lambert and Taylor's study, a group of *high SES* Cuban immigrant parents from a high prestige group (migrated *after* the Cuban revolution), kept their Spanish language usage pattern independent of length of residence, and their children's Spanish *and* English language developed equally well. In the present study, all the parents can be said to belong to a group with so-called low prestige within the Norwegian society, due to their history of labor immigration. Hence, though the mothers ascribe Turkish to be highly important according to the attitude measure, in practice, a shift towards more use of Norwegian is seen as a function of age of migration among the mothers. The linguistic capital in the dominated language, Turkish, might be differently cultivated by the fathers, as their age of migration does not influence neither the Norwegian or Turkish skills.

Many studies have found children's skills in the *dominant* language to be predicted by parental educational resources, within minority families (Dixon, 2011; Driessen et al., 2002; Leseman, 2000; Quiroz et al., 2010; Shany & Geva, 2012), as also seen in the present study. It thus seems like parental cultural capital, in the form of formal education, enables parents to offer children access to mainstream linguistic capital (Umbel et al., 1992). In the present study, only *father's education* contributes significantly in explaining variance in EOWPVT, but mother's education is close to reach the significant level of contribution. Her contribution points in the same direction as father's education: higher education among the parents increases the likelihood of high Norwegian vocabulary scores among the children. Preschool-

attendance emerges as a key in understanding how fathers' education influences the children's language development. As suggested by Rydland (2009) it is unclear whether it is characteristics within the highly educated fathers, or the mere fact that these fathers chose to enroll their child at an early age, that influences their children's Norwegian vocabulary. However, in the present study it is suggested that the effect of father's education does not operate through literacy activities, language use or language attitudes. The attention might therefore be turned towards the preschools. Why is it that early preschool-attendance seems to facilitate Norwegian vocabulary among the preschoolers? Several potential explanations might be relevant, but only two will be further mentioned. First, the children might gain experience in interacting with a female white majority adult in linguistic interactions. These experiences might prepare the child for the test situation of the EOWPVT. Second, preschools might offer rich vocabulary settings, which have been seen as profiting the vocabularies of immigrant children (Aukrust & Rydland, 2011).

The effect of mother's education on the child's Norwegian vocabulary is partly mediated by number of children's books. Number of children's books has also been found to be crucial in other studies of language development and academic achievements (Quiroz et al., 2010; Scheele, 2010; Øia, 2011). However, in the present study, mother and fathers' *book reading* did not mediate the relation between parental education and the children's Norwegian vocabulary. In a Dutch study of 3-6 year old children and their parents, differences were found in language transmission processes and literacy activities between low SES Moroccan-Dutch and low SES Turkish-Dutch minority families (Leseman, 2000). The Moroccan-Dutch parents' education was directly associated with use of Dutch in so-called 'high quality interaction' (e.g. book reading, talk about past experiences), and with the children's Dutch vocabulary. These associations were not found among the Turkish-Dutch parents. The researchers claimed that the expansion of the educational system in the rural areas of Turkey, and the institutional support of Turkish through TV channels and the like, were likely to be the causes. The Turkish-Dutch parents, who were likely to have at least primary school, and have access to institutional language support seemed to be better equipped at transmitting the Turkish language, also through the so-called 'high quality interactions', than the Moroccan-Dutch parents. In the present study it might be that book reading has contradictory effects on the majority language skills in 5-year-olds, if it is offered in *both* Turkish and Norwegian, and that potential positive effects are yet not to be detected in any of the languages. This taps into the interdependence hypothesis of Cummins (2000), in

which language skills need to develop to a certain threshold before being transferred across languages, and that longitudinal data is needed to detect long-term effects

Cohort 2. Parental age of migration and education explain less variance in the older children's vocabulary scores when compared to the younger children. Mother's age of migration has 'lost' its predictive force on the cohort 2 children's EOWPVT scores, while the effect of father's education 'persists' as a strong predictor. However, it must be acknowledged that the present study is a *cross-sectional* study, and that direct comparisons across the cohorts cannot be made. Still, as in the younger cohort, cultural capital seems to be reproduced onto the next generation, through higher likelihood of increased Norwegian vocabulary scores, which might potentially profit the academic success of the older children.

Parental age of migration does not predict these children's Norwegian vocabulary scores. The children in the present sample represent the growing population of Norwegian-born children to two immigrant parents. These have spent their whole life in Norway, and participated in six years of formal education. Parental age of migration might potentially influence their skills in the dominated language (i.e. Turkish), but it seems as though other factors than parents' age of migration are affecting these children's skills in the dominant language. The attention is thus turned towards the cultural capital of the parents.

The effect of mother and father's education on the children's Norwegian vocabulary is partly mediated by the child's age when starting preschool. This indicates long-term effects of preschool, as has also been indicated in a study of reading comprehension among minority 5th graders in Norway (Rydland, 2009). However, again it might be that preschool-attendance is simply a correlate of other characteristics among the highly educated parents. However, *if* preschool-attendance mediates the relation between parental education and the child's EOWPVT score, several reasons might be suggested, and these reasons might deviate from the mechanisms in among the younger children. Perhaps parents with higher educational attainments engaged in the educational activities in the preschool, and brought aspects of these activities to the home environment. Since language learning, language games, child oriented conversations are conducted in the Norwegian language in the preschool, participation and engagement in these activities might therefore bring the Norwegian language into the home. This engagement in the preschool's sociocultural educational activities by middle class parents has also been seen among majority middle class monolingual parents in Norway (Stefansen, 2011). The likelihood of continuing to engage in the educational activities of the children when entering primary school might therefore increase, as these habits were practiced through several years of preschool-attendance and

follow up by the parents, and hence long-term effects might be seen. A conscious or subconscious motive of reproducing the cultural capital onto the next generation might be the underlying motive of engaging in these sociocultural activities.

Number of children's books, talk about children's books, language use and language attitudes do not mediate the relations between parental education and the children's Norwegian vocabulary, so other factors need to be suggested. Factors such as the 'high quality language interactions' presented by Leseman (2000), i.e. engaging the child to talk about past events, and talk about news in the newspapers, might have been more adjusted measures than 'children's books' and 'talk about children's books'. This is due to that the children are soon to turn 13, and other studies on this age group has rather associated factors such as 'number of (adult) books in the household' as meaningful indicators of children's development (Øia, 2011). However, also factors such as talk about news, TV programs, feelings, experiences, politics and others might also be meaningful for this age group.

As with the younger children, either age or gender influences on the vocabulary skills. While it is surprising that age does not influence on the vocabulary scores of the younger children, it is not as surprising for the older children. These children have been age separated in age specific groups for six years, and their language skills might hence vary less within the same age cohort. The younger children on the other hand have fewer years of language learning in their baggage, and the age range separating the youngest and the oldest child might therefore potentially have played a significant role. However, this was not found to be the case according to Norwegian vocabulary. Gender differences were not detected within the present sample, and are not further commented.

Prediction of vocabulary scores in the dominated language (PPVT)

The item-analysis revealed that there *are* challenges attached to interpreting the results from the PPVT-scores. Also, the bivariate correlations, and the results from the regression- and mediation-analyses revealed that the PPVT-scores to a less extent than the EOWPVT-scores are influenced by the predictor- and mediator variables. Previous research has also indicated less clear-cut effect on bilingual children's skills in the dominated language, than in the dominant language, as is evident in cohort 1. As for the cohort 1 children, the *absence* of relationships is discussed, while the *presence* of relationships are discussed for the cohort 2 children. Nonetheless, potential threats to the validity of the PPVT-scores are discussed in the following section with methodological reflections.

Cohort 1. Research question 2 and 3 can be answered quickly for the cohort 1: no predictors predicted the vocabulary scores, and no mediation effects could therefore be found. Only age emerged as a significant predictor of the younger children's vocabulary scores. As mentioned previously, it is not surprising that the age range across the younger children affects the scores, due to the estimations suggesting that children acquire 3000 words annually during childhood (Wold, 2008). It thus seems meaningful and important to include age as a control-variable, especially when investigating the language development of *young* children, and especially in their skills in the *dominated* language.

As parental age of migration, parental education, and parental practice are not significantly predicting or relating to the PPVT-scores, it might be claimed that the parents do not to seem to be in control of ensuring that the child reaches a certain threshold of proficiencies in Turkish. This might leave a rather deterministic impression of language transfer processes within migrant minority families. However, it must be mentioned that parental use of Turkish language with child or with partner do *not* negatively influence on their child's Norwegian skills, so that practices of language use in the minority language might potentially only have positive effects on the children's Turkish skills, while not harming Norwegian skills. The competition hypothesis is thus not supported. Seeing that preschool-attendance does not support the Turkish vocabulary skills of the children, might be a concern, as preschool-attendance for minority children is a public political goal in Norway (NOU, 2010/7). It might point towards that the preschool does not fully adjust to cultural aspects of the home culture and language of the minority children, as suggested by Shany and Geva in the study of Ethiopian-Israeli children (2010).

Cohort 2. The older children's PPVT-scores are predicted by father's education, as were also their Norwegian vocabulary scores. The PPVT-scores are also significantly and moderately associated with their EOWPVT-scores. Putting these two factors together, might suggest that the fathers with higher educational attainments, are likely to offer CALP related words within the Turkish language used with their children. These linguistic resources might then be transferred to Norwegian due to that CALP related concepts are more assessable when encountered in the second language, if already established in the first language (Cummins, 2000). It might be that the fathers' education's influence on the older children's Norwegian vocabulary and Turkish vocabulary skills primarily goes through the establishment of a solid CALP-related vocabulary within the Turkish language. The cultural capital of the fathers is thus reproduced into the next generation, through linguistic resources in the child. Cultural capital seems not to know linguistic boarders, but rather be cross-linguistically transferable.

The fact that the effect of father's education is not mediated by either of the proposed mediators, might point towards that other mediators need to be suggested.

Methodological reflections

What can the present study say something about, and what are its limitations? Are the results based on valid and sound instruments, methods, and procedures? And how have I as an author and researcher potentially influenced the results?

Limitations and generalizability. Quantitative studies of bilingualism in migrant minorities have often been flawed by small sample sizes in which findings could potentially be due to sampling error (Bialystok & Luk, 2012). Small sample size might leave relationships unnoticed, due to that they don't reach the level of statistical significance (Scheele, 2010). Small sample size was problematic in the present study. Especially in the regression models, the sample size is not fit according to the number of predictors in the model. And, many bivariate associations are close to reach the level of significance, and might have done so in a different and/or larger sample. It might have been meaningful to reduce the *amount* of data collected during each home visit, and instead increase the *number of participants*. The problem of variable N/missing data would potentially have been reduced in this manner.

The small sample size is problematic also due to the heterogeneity of the sample. Children with Kurdish-Turkish and Tatar background should potentially have been excluded, due to that these children potentially grow up in *multilingual* settings, and thus add variability and heterogeneity to the sample. Three children with a behavioural disorder and/or physical handicap contributed to additional variability and potentially confounds. Heterogeneity during the data collection might also have confounded and obscured relations, which might otherwise have been detected. Four factors will be mentioned as limitations according to the data collection. First, no instructions were given on whether to administer the vocabulary tests at the beginning or at the end during assessment. It is reasonable to think that the five-year-olds performed better on the vocabulary test if administered at the beginning, compared to towards the end. Exhaustion-effects might therefore confound the results on the vocabulary scores, as this factor was not held constant by the research procedure. Second, the variability during the home visits might also obscure potential relations. For example, the presence of siblings, father or friends during assessment of the child might have contributed to variability, which could potentially have been reduced by stricter procedures during home visits. Shorter home visits might potentially also have reduced the occurrence of these challenges. Third, including 30 research assistants in the data collection might have reduced the capacity of

being in contact with, of conducting follow-up, of communicating and personally training each assistant, potentially leading to more variability across assistants according to the data collection procedure. Fourth, some families knew the visiting research assistant, while other were visited by assistants who were unfamiliar to them. It might have been ideal to reduce the knowledge between the assistant and the family if possible, combined with stricter routines according to anonymity. For example, when collecting the questionnaires during home visits, these might have been placed in sealed envelopes only to be opened by the primary researchers. Hence, the anonymity offered to the families, and the potential reduction of social desirability in responses might have been beneficial results.

Moreover, the vocabulary tests have not been normed or intended for the use of bilingual minority children within a Norwegian context. The *dominated Turkish* language seems to be particularly vulnerable for translation and measurement for several reasons. First, Turkish is a foreign language to most researchers and research assistants, and it is difficult to assess the face validity of the test. Using a fully bilingual research assistant when testing both languages is a strategy used in other studies (Leseman, 2000), and potentially could also profit the present study. Informing on how the test was translated would also increase the trustworthiness of the test. Other studies have informed on procedures such as that *two* linguists cross-referenced all items of the test (Dixon, Wu, et al., 2012), or they have simply used vocabulary measures specially developed for bilingual minority children (Gonzalez, 2006). Moreover, as the Turkish vocabulary test was administered during the same session as the other tests, which were administered in Norwegian, linguistic confusion might have occurred, which could have been prevented by testing at two separate days or sessions, or by changing the research assistant, so that a fluent Turkish assistant would have tested the Turkish vocabulary and spoken to the child in Turkish. The test was administered on screen, and the recorded voice might be harder to interpret and potentially engage the child less, than if a research assistant had presented the words orally.

10% of the children in the present study were located within single-parent households. Parental age of migration and education belonging to the parent not present in the household would therefore not directly influence on the children in their every day lives. Nonetheless information on these non-present parents' education and age of migration were included in the study. Perhaps, including this information contributed to obscure associations among the predictor- and the outcome-variables, due to that the children in the single-parent households were likely to be differently influenced by these factors than the children in the two-parent household.

Future research. Future research should investigate interactional effects by the mother and the father, as it seems as though the parents contribute somewhat differently. For example, the *interaction* of mother and father's education might be a useful approach, as suggested by previous studies (Hupp, Munala, Kaffenberger, & Hensley Wessel, 2011). Cultural capital of the parents might interact and create certain effects on children's home language environment in migrant minority families. Also interaction of language use might potentially mediate the assumed relation between parental age of migration and education on the one hand, and children's vocabulary on the other.

There were cases of significant associations between income and parental employment (i.e. indicators of economic capital), and the children's vocabulary scores in both cohorts. This, combined with the fact that children with minority background are more likely to grow up in low income households, than their majority peers, might point towards the importance of including indicators of economic capital when studying children's development in minority families. Also, seeing that parental education and employment were not consistently associated in the present sample, point towards certain challenges within minority families according to exchanging cultural capital into economic capital.

Further, little is known about whether the literacy activities were conducted in Norwegian and/or Turkish in the present study. Future research should investigate the language of the children's books, as has been done in other studies (Patterson, 2002; Scheele, 2010), so that additional information of the literacy activities of the families are better understood, and which specific strategies are used by parents across age of migration and educational level. Also, this might reveal support for either the competition- or the interdependence hypothesis. Such information is available within SIMCUR, and it is a limit of *this* study that this information was not included.

Future research should also include *qualitative* observational studies of the *interactions* between children and parents, as to detect to which extent CALP- and BICS-related words are used, in which languages, and in which situations. Moreover, such observational studies might reveal *strengths* and *resources* within the families that the present study has not discovered. Interactional styles facilitating meta-linguistic knowledge, and other valuable skills might therefore be captured and might move interpretations away from a deficit model and towards a strength model, as other researchers have also suggested (Prilleltensky & Nelson, 2005). The present study might be criticized for not doing full justice to the competences residing within the Turkish families, and future research might

more pronouncedly invite the participants to define the issues to be investigated, and in which areas they wish to develop or cultivate their specific linguistic profiles.

Many studies have applied a dynamic understanding of bilingualism in minority settings, and investigated dynamic language usage patterns instead of static entities such as 'how much Norwegian/Turkish do you speak with your child?' Studies have found bilingual children to code-switch between languages in elegant and specific ways. A Singaporean study, found bilingual children to conduct emotionally affected conversations in the minority/dominated language, while negotiating to borrow a toy was conducted in the majority/dominant language both conversations with the same sibling within the same family setting (Vaish, 2007). Such approaches might do more justice to the linguistic resources and the everyday living within bilingual families, than straightforward vocabulary tests. Hence, SIMCUR and myself might have not fully adjusted to a holistic approach as described by Grosjean (2010). Our experiences from sociocultural activities typically characteristic of European middle class communities (Rogoff, 2003) might have biased our ability to assess and interpret the bilingual proficiencies of the children.

Not only qualitative, observational and collaborative research is needed in future research on bilingual families. Also longitudinal, quantitative studies, examining how parents and children interact and influence each other over several years are needed. SIMCUR has/will collect data in a three-year period, hence contributing such type of longitudinal data.

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Appendix

Appendix A: Information brochure SIMCUR

Vi samler informasjon om barnets mestring, læring og tilpasning fra barnet selv, foreldrene og skolen. Far og mor blir bedt om å fylle ut et spørreskjema. Første del vil dere få tilsendt i posten, og kan fylles ut på egenhånd. Vi ønsker deretter å besøke dere hjemme på kveldstid for å fylle ut resten av skjemaet, gjøre et lite intervju, samt å gjøre videoopptak av mor og barn sammen, under lek eller samtale. Besøket vil vare i ca. to timer.

Hensikten med intervjuet, spørreskjemaet og testene er å undersøke barnets språklige, kognitive og følelsesmessige utvikling. Etter eget samtykke fra dere vil vi hvert år innhente informasjon fra skolen om barnets skoleprestasjoner, og be barnets lærer om å besvare et spørreskjema om barnet.

HVORFOR?

BROER ønsker å få kunnskap om:

- Hvilke forhold i skolen fremmer barns læring og sosiale tilpasning gjennom viktige overgangsfaser i oppveksten?
- Hvordan kan skolen og foreldrene samarbeide for å støtte barns læring og tilpasning i ulike utviklingsfaser?
- Hvilke forhold i nærmiljøet har betydning for barns utvikling?
- Hvilke politiske og kulturelle forhold bidrar til at skolen og foreldrene kan skape best mulig oppvekstvilkår for barn?

Resultatene fra *BROER* vil være nyttige for politikere som skal tilrettelegge gode oppvekstvilkår for barn både internasjonalt, nasjonalt og lokalt. Kunnskap om individuelle, sosiale og kulturelle faktorer som fremmer barns læring og tilpasning vil også være nyttig for skolenes tilrettelegging av undervisning og skole - hjemsamarbeidet i de tre landene. *BROER* kan dessuten bidra til at foreldrene får bedre innsikt i barnas oppvekstforhold, og hvordan de selv kan bidra til å fremme læring og tilpasning for barn som vokser opp i flerkulturelle samfunn.

akelse i *BROER* er frivillig, og det vil ikke få konsekvenser om en velger å la være å delta. Dere kan når som helst trekke dere dersom dere skulle ønske det.

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Appendix B: Questionnaires and interview (SIMCUR)

Broer

oppvekst, tilpasning og læring

SPØRRESKJEMA FOR MOR

DEL 2, KOHORT 2 T

*'Barnet', eller 'ditt barn' viser til barnet som snart skal begynne på **ungdomsskolen**.*

BARNETS ID NR: _____ Dato: ____ / ____ / ____

B2_0 **Barnets fødselsdato:** | | | | M2_1 **Barnets kjønn:** 1 ☐ Gutt 2 ☐ Jente

I. DIN BAKGRUNN

SPRÅK

Angi dine tyrkiske og norske språkferdigheter på den følgende skalaen.

		1 Ikke i det hele tatt	2 Litt	3 Ganske	4 Veldig
M2_136	Hvor godt snakker du norsk?	☐	☐	☐	☐
M2_137	Hvor godt forstår du muntlig norsk?	☐	☐	☐	☐
M2_138	Hvor godt leser du norsk?	☐	☐	☐	☐
M2_139	Hvor godt skriver du norsk?	☐	☐	☐	☐
M2_140	Hvor godt snakker du tyrkisk?	☐	☐	☐	☐
M2_141	Hvor godt forstår du muntlig tyrkisk?	☐	☐	☐	☐
M2_142	Hvor godt leser du tyrkisk?	☐	☐	☐	☐
M2_143	Hvor godt skriver du tyrkisk?	☐	☐	☐	☐

		1 Bare tyrkisk	2 For det meste tyrkisk	3 Like mye tyrkisk og norsk	4 For det meste norsk	5 Bare norsk
M2_144	Hvilket språk snakker du med barnet ditt?	☐	☐	☐	☐	☐
M2_145	Hvilket språk snakker du med din ektefelle/samboer?	☐	☐	☐	☐	☐

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Ungkul
Ungdom kultur og mestring

		1 Ikke viktig i det hele tatt	2 Litt viktig	3 Ganske viktig	4 Veldig viktig
M2_146	Hvor viktig er det for deg at barnet ditt snakker godt tyrkisk?	☐	☐	☐	☐
M2_147	Hvor viktig er det for deg at barnet ditt snakker godt norsk?	☐	☐	☐	☐

Hvor komfortabel føler du deg med å snakke norsk:

		1 Ikke komfortabel i det hele tatt	2 Litt komfortabel	3 Ganske komfortabel	4 Veldig komfortabel
M2_151	Hjemme	☐	☐	☐	☐
M2_152	På jobb	☐	☐	☐	☐
M2_153	Med norske venner	☐	☐	☐	☐
M2_154	Med fremmede på telefonen	☐	☐	☐	☐
M2_155	Med folk på ditt barns skole	☐	☐	☐	☐

KULTUR

Vi ber om din mening om de følgende oppfatningene:

		1 Svært uenig	2 Uenig	3 Verken enig eller uenig	4 Enig	5 Svært enig
M2_156	Jeg har brukt tid på å forsøke å finne ut mer om tyrkisk kultur, slik som dens historie, tradisjoner og skikker.	☐	☐	☐	☐	☐
M2_157	Jeg føler sterk tilhørighet til tyrkisk kultur.	☐	☐	☐	☐	☐
M2_158	Jeg forstår rimelig godt hva det betyr for meg å være tyrkisk.	☐	☐	☐	☐	☐
M2_159	Jeg har ofte gjort ting for å forstå min tyrkiske bakgrunn bedre.	☐	☐	☐	☐	☐
M2_160	Jeg har ofte snakket med andre personer for å lære mer om tyrkisk kultur.	☐	☐	☐	☐	☐
M2_161	Jeg føler en sterk tilknytning til tyrkisk kultur.	☐	☐	☐	☐	☐
M2_162	Jeg føler at jeg er en del av norsk kultur.	☐	☐	☐	☐	☐
M2_163	Jeg føler at jeg er en del av tyrkisk kultur.	☐	☐	☐	☐	☐
M2_164	Jeg ser på meg selv som norsk.	☐	☐	☐	☐	☐
M2_165	Jeg ser på meg selv som tyrkisk.	☐	☐	☐	☐	☐
M2_166	Jeg foretrekker å være sammen med nordmenn.	☐	☐	☐	☐	☐

		1 Svært uenig	2 Uenig	3 Verken enig eller uenig	4 Enig	5 Svært enig
M2_167	Jeg foretrekker å være sammen med tyrkere.	☐	☐	☐	☐	☐
M2_168	Jeg foretrekker norske kulturtradisjoner.	☐	☐	☐	☐	☐
M2_169	Jeg foretrekker tyrkiske kulturtradisjoner.	☐	☐	☐	☐	☐
M2_170	Jeg foretrekker nordmenns livsstil.	☐	☐	☐	☐	☐
M2_171	Jeg foretrekker tyrkeres livsstil.	☐	☐	☐	☐	☐

Tenk på de siste 12 månedene og angi hvor belastende de følgende tingene har vært for deg:

		1 Har opplevd dette, men det var ikke belastende	2 Noe belastende	3 Ganske belastende	4 Veldig belastende	0 Har ikke opplevd dette
M2_172	Folk fra ditt opprinnelsesland kritiserer deg for ikke å opprettholde dine verdier og tradisjoner godt nok.	☐	☐	☐	☐	☐
M2_173	Barnet ditt opprettholder ikke tradisjoner fra ditt opprinnelsesland.	☐	☐	☐	☐	☐
M2_174	Barnet ditt oppfører seg for mye som norske barn og ungdommer.	☐	☐	☐	☐	☐
M2_175	Du savner venner og familie som bor i Tyrkia.	☐	☐	☐	☐	☐
M2_176	Du har blitt frustrert fordi du ikke forstår norske måter å tenke og oppføre seg på.	☐	☐	☐	☐	☐
M2_177	Du er bekymret for familiemedlemmer i ditt hjemland.	☐	☐	☐	☐	☐

Vennligst kryss av det svaret som beskriver hvor enig du er i de følgende utsagnene:

		1 Svært uenig	2 Uenig	3 Ikke sikker/ nøytral	4 Enig	5 Svært enig
M2_178	Jeg synes at nordmenn har oppført seg urettferdig eller negativt mot folk med tyrkisk opprinnelse.	☐	☐	☐	☐	☐
M2_179	Jeg føler meg ikke akseptert av nordmenn.	☐	☐	☐	☐	☐
M2_180	Jeg føler at nordmenn har noe imot meg.	☐	☐	☐	☐	☐
M2_181	Jeg har blitt ertet eller fornærmet på grunn av min tyrkiske opprinnelse.	☐	☐	☐	☐	☐

Broer

oppvekst, tilpasning og læring

SPØRRESKJEMA FOR FAR

KOHORT 2 T

*'Barnet', eller 'ditt barn' viser til barnet som snart skal begynne på **ungdomsskolen**.*

BARNETS ID NR: _____ **Dato:** ____ / ____ / ____

B2_0 **Barnets fødselsdato:** | | | | M2_1 **Barnets kjønn:** 1 ☐ Gutt 2 ☐ Jente

F2_8 **Ditt forhold til barnet:** 1 ☐ Biologisk far 2 ☐ Annet, nemlig: _____

I. BARNET DITT

STERKE OG SVAKE SIDER

Vennligst kryss av for hvert utsagn: Stemmer ikke, Stemmer delvis eller Stemmer helt. Prøv å svare på alt selv om du ikke er helt sikker eller synes utsagnet virker rart. Svar på grunnlag av barnets oppførsel de **siste 6 månedene**.

		0 Stemmer ikke	1 Stemmer delvis	2 Stemmer helt
F2_191	Omtenksom, tar hensyn til andre menneskers følelser	☐	☐	☐
F2_192	Rastløs, overaktiv, kan ikke være lenge i ro	☐	☐	☐
F2_193	Klager ofte over hodepine, vondt i magen eller kvalme	☐	☐	☐
F2_194	Deler gjerne med andre barn (godter, leker, andre ting)	☐	☐	☐
F2_195	Har ofte raserianfall eller dårlig humør	☐	☐	☐
F2_196	Ganske ensom, leker ofte alene	☐	☐	☐
F2_197	Som regel lydig, gjør vanligvis det voksne ber om	☐	☐	☐
F2_198	Mange bekymringer, virker ofte bekymret	☐	☐	☐
F2_199	Hjelpsom hvis noen er såret, lei seg eller føler seg dårlig	☐	☐	☐
F2_200	Stadig urolig eller i bevegelse	☐	☐	☐
F2_201	Har minst en god venn	☐	☐	☐
F2_202	Slåss ofte med andre barn eller mobber dem	☐	☐	☐
F2_203	Ofte lei seg, nedfor eller på gråten	☐	☐	☐

folkehelseinstituttet

Ungkul
Ungdom kultur og mestring

		0 Stemmer ikke	1 Stemmer delvis	2 Stemmer helt
F2_204	Vanligvis likt av andre barn	☐	☐	☐
F2_205	Lett avledet, mister lett konsentrasjonen	☐	☐	☐
F2_206	Nervøs eller klengete i nye situasjoner, lett utrygg	☐	☐	☐
F2_207	Snill mot yngre barn	☐	☐	☐
F2_208	Lyver eller jukser ofte	☐	☐	☐
F2_209	Plaget eller mobbet av andre barn	☐	☐	☐
F2_210	Tilbyr seg ofte å hjelpe andre (foreldre, lærere, andre barn)	☐	☐	☐
F2_211	Tenker seg om før hun/han handler (gjør noe)	☐	☐	☐
F2_212	Stjeler hjemme, på skolen eller andre steder	☐	☐	☐
F2_213	Kommer bedre overens med voksne enn med barn	☐	☐	☐
F2_214	Redd for mye, lett skremt	☐	☐	☐
F2_215	Fullfører oppgaver, god konsentrasjonsevne	☐	☐	☐

F2_216 **Samlet, synes du at barnet ditt har vansker på ett eller flere av følgende områder: Med følelser, konsentrasjon, oppførsel eller med å komme overens med andre mennesker?**

0 ☐ Nei 1 ☐ Ja, små vansker 2 ☐ Ja, tydelige vansker 3 ☐ Ja, alvorlige vansker

Hvis du har svart "nei", gå direkte til neste seksjon (Å VÆRE FORELDRE).

Hvis du har svart "ja", vennligst svar på følgende spørsmål:

F2_217 a **Hvor lenge har disse vanskene vært til stede?**

0 ☐ Mindre enn en måned 1 ☐ 1-5 måneder 2 ☐ 6-12 måneder 3 ☐ Mer enn ett år

F2_218 b **Blir barnet selv forstyrret eller plaget av vanskene?**

0 ☐ Ikke i det hele tatt 1 ☐ Bare litt 2 ☐ En god del 3 ☐ Mye

c **Påvirker vanskene barnets dagligliv på noen av de følgende områdene?**

		0 Ikke i det hele tatt	1 Bare litt	2 En god del	3 Mye
F2_219	Hjemme/i familien	☐	☐	☐	☐
F2_220	Forhold til venner	☐	☐	☐	☐
F2_221	Læring	☐	☐	☐	☐
F2_222	Fritidsaktiviteter	☐	☐	☐	☐

F2_223 d **Er vanskene en belastning for deg eller familien som helhet?**

0 ☐ Ikke i det hele tatt 1 ☐ Bare litt 2 ☐ En god del 3 ☐ Mye

F2_374 **Hvor ofte deltar du i aktiviteter som er organisert av norske organisasjoner/ institusjoner?**

1 ☐ Nesten aldri
2 ☐ Noen ganger i året
3 ☐ Omtrent en gang per måned
4 ☐ Flere ganger per måned
5 ☐ Minst en gang i uka

F2_375 **Hva slags aktiviteter?** *(Fler enn ett svar mulig)*

1 ☐ Politiske
2 ☐ Religiøse
3 ☐ Kulturelle
4 ☐ Sosiale
5 ☐ Idrett

III. DIN BAKGRUNN

SPRÅK

Angi dine tyrkiske og norske språkferdigheter på den følgende skalaen.

		1 Ikke i det hele tatt	2 Litt	3 Ganske	4 Veldig
F2_136	Hvor godt snakker du norsk?	☐	☐	☐	☐
F2_137	Hvor godt forstår du muntlig norsk?	☐	☐	☐	☐
F2_138	Hvor godt leser du norsk?	☐	☐	☐	☐
F2_139	Hvor godt skriver du norsk?	☐	☐	☐	☐
F2_140	Hvor godt snakker du tyrkisk?	☐	☐	☐	☐
F2_141	Hvor godt forstår du muntlig tyrkisk?	☐	☐	☐	☐
F2_142	Hvor godt leser du tyrkisk?	☐	☐	☐	☐
F2_143	Hvor godt skriver du tyrkisk?	☐	☐	☐	☐

De neste spørsmålene handler om hvorvidt du snakker tyrkisk eller norsk.

		1 Bare tyrkisk	2 For det meste tyrkisk	3 Like mye tyrkisk og norsk	4 For det meste norsk	5 Bare norsk
F2_144	Hvilket språk snakker du med barnet ditt?	☐	☐	☐	☐	☐
F2_145	Hvilket språk snakker du med din ektefelle/samboer?	☐	☐	☐	☐	☐

		1 Ikke viktig i det hele tatt	2 Litt viktig	3 Ganske viktig	4 Veldig viktig
F2_146	Hvor viktig er det for deg at barnet ditt snakker godt tyrkisk?	☐	☐	☐	☐
F2_147	Hvor viktig er det for deg at barnet ditt snakker godt norsk?	☐	☐	☐	☐

Hvor komfortabel føler du deg med å snakke norsk:

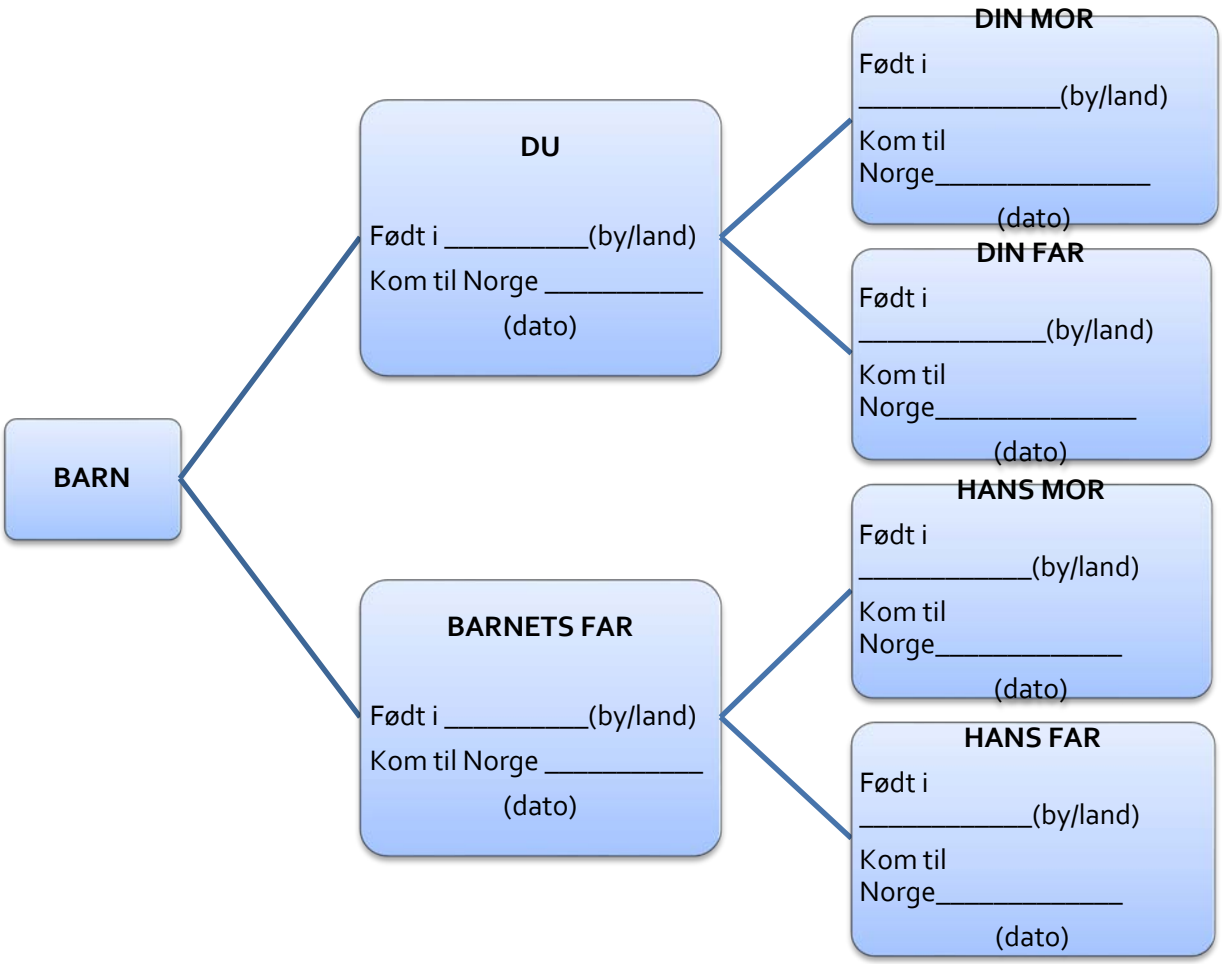
		1 Ikke komfortabel i det hele tatt	2 Litt komfortabel	3 Ganske komfortabel	4 Veldig komfortabel
F2_151	Hjemme	☐	☐	☐	☐
F2_152	På jobb	☐	☐	☐	☐
F2_153	Med norske venner	☐	☐	☐	☐
F2_154	Med fremmede på telefonen	☐	☐	☐	☐
F2_155	Med folk på ditt barns skole	☐	☐	☐	☐

FORELDRE INTERVJU GUIDE
Tyrkiske familier

Hensikten med denne intervju guiden er å: 1) gi et standard format for den første samtalen med familien; og å 2) samle spesifikke data for prosjektet. Det er viktig å notere svarene nøyaktig i de ulike delene, samtidig som samtalen med foreldrene føres.

A. FAMILIE HISTORIE

1. Vennligst fyll inn hvor ditt barns slektninger ble født (sted/by og land). Hvis de ikke ble født i Norge, vennligst oppgi
omtrentlig hvor gamle de var da de kom til Norge.



2. Dersom du ikke ble født i Norge, hva var hovedgrunnen til at du kom hit?

- ☐ Foreldre
- ☐ Giftemål
- ☐ Politisk asyl
- ☐ Annen grunn, nemlig: _____

3. Dersom partneren din ikke ble født i Norge, hva var hovedgrunnen til at han kom hit?

- ☐ Foreldre
- ☐ Giftemål

☐ Politisk asyl
☐ Annen grunn, nemlig: _____

4. Hvilken oppholdsstatus har du og din partner i Norge?

DU	DIN PARTNER
☐ Norsk statsborgerskap, innvilget i _____(år)	☐ Norsk statsborgerskap, innvilget i _____(år)
☐ permanent oppholdstillatelse (bosettingstillatelse)	☐ permanent oppholdstillatelse (bosettingstillatelse)
☐ midlertidig oppholdstillatelse	☐ midlertidig oppholdstillatelse

B. FAMILIE SITUASJON

1a. Hva er ditt forhold til barnet?

☐ Biologisk mor
☐ Annet, nemlig_____

1b. Har barnet en til forelder/omsorgsperson?

☐ Nei
☐ Ja (spesifiser): ☐ Biologisk far
☐ Annet, nemlig_____

2. I hvor mange uker hadde graviditeten vart da barnet ditt ble født? _____uker

3. Hvor mange barn har du? _____

4. Vennligst skriv inn barnas fødselsdatoer. Start med det eldste barnet.

1 ...../...../.....	2 ...../...../.....	3...../...../.....	4...../...../.....	5 ...../...../.....	6...../...../.....

5. Hvor mange barn bor hos deg på nåværende tidspunkt? _____ barn

6. Hva er din sivile status?

☐ Gift
☐ Samboer
☐ Enslig
☐ Annen (fyll inn): _____

7. Hva er ditt barns familiesituasjon?

☐ Bor med biologiske foreldre
☐ Bor med 1 biologisk forelder
☐ Bor med 1 biologisk og 1 steforelder
☐ Bor med 1 eller 2 foster- eller adoptivforeldre
☐ Bor vekselvis i 2 hushold, nemlig:_____
_____
☐ Annen (fyll inn):_____

8. Bor noen andre voksne utenom foreldrene/omsorgspersonene nevnt over sammen med familien?
(Barn over 18 år som fremdeles bor hjemme teller ikke)

☐ Nei ☐ Ja (fyll inn) _____

9. Har barnet ditt noen medisinske helseplager?

☐ Nei ☐ Ja (fyll inn) _____

10. Har du noen medisinske helseplager?

☐Nei ☐ Ja (fyll inn) _____

11. Planlegger du å flytte til Tyrkia i løpet av de 3 neste årene?

☐ Nei ☐Ja

12. Planlegger du å flytte til Tyrkia noen gang i framtiden?

☐ Nei ☐Ja

13. Hvis du bor med en partner som ikke er barnets biologiske far:

a. Hvor lenge har dere bodd sammen? Siden _____(årstall)

b. Har partneren din barn som bor sammen med dere?

☐ Nei ☐ Ja

Be om følgende informasjon om barnets biologiske far: (Spørsmålene kan stilles om den biologiske moren dersom barnet primært bor hos sin biologiske far):

a. **Hvor gammel er barnets biologiske far? _____ år**

b. **Hva er hans etniske bakgrunn?**

☐ Norsk
☐ Tyrkisk
☐ Annet, nemlig_____

c. **Hva er hans høyeste utdanning? _____**

d. **Når ble forholdet deres avsluttet? _____**

e. **Har barnet fremdeles kontakt med faren?**

☐ Nei ☐ Ja

f. **Hvis ja, hva slags kontakt her de? _____**

g. **Hvor ofte? _____**

h. **Hvor fornøyd er du med hvor mye kontakt de har?**

☐ Ikke i det hele tatt
☐ Noe
☐ Ganske
☐ Veldig

i. **Hvor fornøyd er du med kvaliteten på forholdet mellom barnet ditt og hans/hennes far?**

☐ Ikke i det hele tatt

☐ Noe
☐ Ganske
☐ Veldig

C. UTDANNING OG ARBEID

1. Hvor mange års skolegang har du fra Norge (grunnskole, videregående skole og høyere utdanning)?
_____ år

2. Hvor mange års skolegang har du fra Tyrkia (grunnskole, videregående skole og høyere utdanning)?
_____ år

3. Hva er den høyeste utdanningen du og din ektefelle/samboer har fullført?

Du:

☐ 7 års grunnskole eller mindre
☐ Ungdomsskole, realskole, yrkesskole o.l. (2-3 år)
☐ Videregående / Gymnas / Artium (3-4 år)
☐ Universitet/ høyskole/annen fagutdanning (4 år eller mindre)
☐ Universitet eller høyskole (mer enn 4 år)

Hvilken skole? _____

Din ektefelle/samboer:

☐ 7 års grunnskole eller mindre
☐ Ungdomsskole, realskole, yrkesskole o.l.(2-3 år)
☐ Videregående / Gymnas / Artium (3-4 år)
☐ Universitet/ høyskole/annen fagutdanning (4 år eller mindre)
☐ Universitet eller høyskole (mer enn 4 år)

Hvilken skole? _____

4. Er du og din ektefelle/samboer for tiden i lønnet arbeid?

Du:

☐ Nei, hjemmearbeidende
☐ Nei, under utdanning
☐ Nei, arbeidsledig/trygdet
☐ Ja, arbeider som_____ i _____timer/uke

Din ektefelle/samboer:

☐ Nei, hjemmearbeidende
☐ Nei, under utdanning
☐ Nei, arbeidsledig/trygdet
☐ Ja, arbeider som_____ i _____timer/uke

D. NABOLAG

1. Hva regner du som ditt nabolag? _____

Hva heter nabolaget ditt? _____

2. Hvor lenge har folk flest bodd i dette nabolaget?

☐ Mindre enn 2 år, eller vet ikke
☐ 2 til 5 år
☐ 5 til 10 år
☐ Mer enn 10 år

**** Dersom respondenten har vanskelig for å svare, spør: Anser du dette som et stabilt nabolag, eller flytter folk mye ut og inn?***

3. Hvor ofte treffes du med noen av naboene dine—enten ved å besøke hverandre hjemme, eller å gå ut sammen?

☐ Nesten aldri
☐ Minst en gang per mnd.
☐ En gang i uka eller oftere

4. Vennligst angi hvor mye de følgende utsagnene stemmer:

	Stemmer ikke *1*	**Stemmer litt** *2*	**Stemmer noe** *3*	**Stemmer stort sett** *4*	**Stemmer helt** *5*
a. Folk i dette nabolaget vil holde innvandrerfamilier ute av nabolaget.	☐	☐	☐	☐	☐
b. Folk i dette nabolaget deltar i aktiviteter for å støtte innvandrer-miljøet.	☐	☐	☐	☐	☐
c. Jeg er alt i alt tilfreds med dette nabolaget.	☐	☐	☐	☐	☐

5. Har familien bil? ☐Nei ☐ Ja

6. Har du førerkort? ☐Nei ☐ Ja

(MERKNAD TIL INTERVJUER: Herfra henviser spørsmålene til det nære byområdet respondenten bor i, mer enn det umiddelbare nabolaget)

7. Finnes de følgende tingene tilgjengelig for dere i nabolaget?

	Ja	Nei	Vet ikke
Etter-skolen tilbud			
Utendørs leke muligheter for barn			
Fritidsaktiviteter for familier og barn			
Helse/sosial tjenester			
Offentlig transport			
Dagligvarehandel			
Bank			
Postkontor			
Fastlege			

8. a. Hvor ofte deltar du i aktiviteter som er organisert av tyrkiske organisasjoner/institusjoner?

☐Nesten aldri ☐Noen ganger i året ☐Omtrent en gang per måned

☐Flere ganger per måned ☐Minst en gang i uka

b. Hva slags aktiviteter? (Fler enn ett svar mulig)

☐Politiske ☐Religiøse ☐Kulturelle ☐Sosiale ☐Idrett

9. **a. Hvor ofte deltar du i aktiviteter som er organisert av norske organisasjoner/institusjoner?**

☐Nesten aldri ☐Noen ganger i året ☐Omtrent en gang per måned

☐ Flere ganger per måned ☐Minst en gang i uka

b. Hva slags aktiviteter? (Fler enn ett svar mulig)

☐Politiske ☐Religiøse ☐Kulturelle ☐Sosiale ☐Idrett

E. HJEMME FORHOLD

1. Hvor mange rom har boligen din?_____ Hvor mange kvadratmeter har boligen din?_____

2. Hvor mange mennesker bor i boligen din? _____

3. Føler du at dere har nok plass for familien? ☐ Ikke nok ☐ Passe ☐ Mer enn nok

F. DAGLIG TIMEPLAN

Hvordan ser det daglige programmet til barnet ditt ut i en normal skoleuke? Hvis barnet ditt har et dagsprogram
som skifter fra uke til uke, vennligst angi dagsprogrammet for den nåværende uka. I tillegg til skole og evt.
skolefritidsordning (SFO), ta med aktiviteter som idrett, musikkundervisning, hobbyklubber, privatundervisning,
religiøs undervisning/aktivitet osv. Vennligst angi i parentes hvem som passer på barnet, eller om barnet er alene
eller sammen med venner (forkortelser som kan brukes i skjemaet er angitt i vedlegget).

time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
7 - 8							
8 - 9							
9 - 10							
10 - 11							
11 - 12							
12 - 13							
13 - 14							
14 - 15							
15 - 16							
16 - 17							
17 - 18							
18 - 19							
19 - 20							
20 - 21							
21 - 22							

G. HJEMMEAKTIVITETER

1.a. Hvor mange time(r) om dagen ser barnet ditt på barneprogrammer på TV, inkludert video og DVD?

Mandag til fredag ..... time(r)/dag
Helg ..... time(r)/dag

2.a. Har du PC hjemme? ☐ Nei ☐ Ja

b. Hvis ja, har din PC internett tilgang? ☐Nei ☐ Ja

c. Hvis ja, hvor mange timer per dag bruker barnet ditt med PC'en?

... til informasjonssøking/skolearbeid: Mandag til Fredag ..... time(r), helg ..... time(r)
... til underholdning/spill: Mandag til Fredag ..... time(r), helg ..... time(r)
... til sosiale nettverk/e-post: Mandag til Fredag ..... time(r), helg ..... time(r)

3. Hvor ofte går du og din partner ut med barnet (f.eks. til biblioteket, kino, idrettsaktiviteter o.l.)?

	Mor	**Far**
1 gang i måneden eller sjeldnere	☐	☐
Ukentlig	☐	☐
Flere ganger i uka	☐	☐
Hver dag	☐	☐

Appendix C: List of assessment

List of tests, interview and procedures regarding the children at wave 1

Tests

- 'Digit span'
- 'Heart and flowers'
- 'Delayed frustration' task
- 'Phonological synthesis' task (only cohort 1)
- 'Everybody counts' (only cohort 1)
- PPVT 4th edition
- EOWPVT

Interview

- Interview (one version adapted to cohort 1, and one adapted to cohort 2.

Cooperation with mother

- Cooperation task with the mother (building with kapla blocks, and playing with picture cards)

Appendix D: Ethical approval (SIMCUR)

UNIVERSITETET I OSLO
DET MEDISINSKE FAKULTET

MOTTATT
2 8 APR 2010

Nasjonalt folkehelseinstitutt
v/Seniorforsker Brit Oppedal
Postboks 4404
0403 Oslo

Regional komité for medisinsk og helsefaglig forskningsetikk Sør-Øst A (REK Sør-Øst A)
Postboks 1130 Blindern
NO-0318 Oslo

Telefon: 22 84 46 66

E-post: jorgen.hardang@medisin.uio.no
Nettadresse: http://helseforskning.etikkom.no

Dato: 23.04.2010
Deres ref.:
Vår ref.: 2010/139a

2010/139a Broer: Oppvekstforhold, tilpasning og læring i Europa

Prosjektleder: Brit Oppedal

Forskningsansvarlig: Nasjonalt folkehelseinstitutt

Vi viser til tilbakemelding datert 21.4.2010 med følgende vedlegg: Svar på komiteens merknader og forslag til informasjonsskriv med samtykkeerklæring.

Forslaget til informasjonsskriv imøtekommer langt på veg intensjonen i komiteens vedtak. Under forutsetning av at det blir gjort noen mindre endringer, kan komiteen godkjenne informasjonsskrivet for bruk i prosjektet:

- Formuleringen: "Takk for at dere deltar i Folkehelseinstituttets undersøkelse "BROER"!" slettes.
- På slutten av første avsnitt føyes til "Det er frivillig å delta."
- Andre setningen i andre avsnitt endres til : " Foreldrene vil på vårparten hvert år motta i posten første del av et spørreskjema som de fyller ut selv.
- På slutten av samme avsnitt føyes det til en setning: "For å få en bedre forståelse av barnets utvikling ber vi om deres samtykke til å innhente informasjon fra skolen om barnets skoleprestasjoner og tilpasning i skolen."

Vedtak:

Prosjektet godkjennes under forutsetning av at de vilkårene som er anført ovenfor blir tatt til følge.

Godkjenningen er videre gitt under forutsetning av at prosjektet gjennomføres slik det er beskrevet i søknaden, av tilbakemelding på komiteens merknader og de bestemmelser som følger av helseforskningsloven med forskrifter.

Dersom det skal gjøres endringer i prosjektet i forhold til de opplysninger som er gitt i søknaden, må prosjektleder sende endringsmelding til REK.

Forskningsprosjektets data skal oppbevares forsvarlig, se personopplysningsforskriften kapittel 2, og Helsedirektoratets veileder for «Personvern og informasjonssikkerhet i forskningsprosjekter innenfor helse- og omsorgssektoren». Personidentifiserbare data slettes straks det ikke lenger er behov for dem og senest ved prosjektets avslutning.

Godkjenningen gjelder til 14.10.2013. Prosjektet skal sende sluttmelding på eget skjema, se helseforskningsloven § 12, senest et halvt år etter prosjektslutt.

Vedtaket kan påklages (jfr. Forvaltningslovens 28) til Den nasjonale forskningsetiske komité for medisin og helsefag. Klagen skal sendes til REK Sørøst A (jfr. Forvaltingslovens § 32). Klagefristen er tre uker fra den dagen du mottar dette brevet (jfr. Forvaltningslovens § 29).

Vi ber om at alle henvendelser sendes inn via vår saksportal: http://helseforskning.etikkom.no eller på e-post til: post@helseforskning.etikkom.no

Vennligst oppgi vårt saksnummer/referansenummer i korrespondansen.

Med vennlig hilsen

Gunnar Nicolaysen (sign)
Professor
Leder

Jørgen Hardang
Komitésekretær

Kopi til forskningsansvarlig: Folkehelseinstituttet ved Divisjonsdirektør Arne Holte; reksoknad@fhi.no

Appendix E: Consent form

FORESPØRSEL OM DELTAKELSE I FORSKNINGSPROSJEKT

Bakgrunn og hensikt

BROER studerer forhold ved nærmiljø og samfunn som påvirker hvordan barn mestrer oppstart i barneskolen og overgangen fra barne- til ungdomsskolen. Vi inviterer familier med etnisk tyrkisk og norsk bakgrunn som har barn som begynner barneskole eller ungdomsskole høsten 2012 til å delta i prosjektet. Det er frivillig å delta.

Hva innebærer studien?

Studien varer i 3 år. Foreldrene vil på vårparten hvert år motta i posten første del av et spørreskjema som de fyller ut selv. Vi kommer så på et hjemmebesøk. Da vil foreldrene fylle ut den andre delen av spørreskjemaet, delta i et intervju, og filmes sammen med barnet. Vi vil også undersøke barnets språklige, kognitive og følelsesmessige utvikling. De eldste barna besvarer hvert år et spørreskjema. Foreldrene er ikke til stede når barnet testes og besvarer spørreskjemaer. Besøket varer i ca. to timer. For å få en bedre forståelse av barnets utvikling ber vi om deres samtykke til å innhente informasjon fra skolen om barnets skoleprestasjoner og tilpasning i skolen.

Mulige fordeler og ulemper

Barnet ditt og deg kommer til å bruke ca 2 timer for å gjennomføre intervju, spørreskjema, observasjoner og testing. Utover dette er det ingen ulemper eller ubehag forbundet ved å delta i studien. Det er heller ingen direkte fordeler for barnet ditt, men kunnskap fra prosjektet kan bidra til å fremskaffe bedre informasjon om hvordan ulike samfunnsforhold påvirker barns læring og sosiale tilpasning.

Hva skjer med informasjonen du gir?

Data fra undersøkelsen vil oppbevares anonymt for forskningsformål i 10 år. Vi er underlagt de etiske retningslinjer og regler for taushetsplikt som gjelder i Regional komité for medisinsk forskningsetikk som har godkjent prosjektet.

Frivillig deltakelse

Dere kan når som helst trekke dere fra undersøkelsen ved å ta direkte kontakt med prosjektleder Brit Oppedal på telefon: 21 07 82 26, eller på e-post: brit.oppedal@fhi.no.

SAMTYKKE TIL DELTAKELSE I STUDIEN

Jeg er villig til å delta i studien Ja _____
Barnet mitt kan delta i studien Ja _____

Undersøkelsen BROER kan innhente informasjon fra barnets lærer/skole Ja _____

Barnets navn:_____

Barnets barnehage/skole:_____Gruppe/klasse:_____

Foresattes navn:_____

Signatur: _____

Adresse:_____

Telefon:_____ E-post:_____

Appendix F: Additional bivariate correlations concerning research question 1.

Additional bivariate correlations
1. Mother's employment
2. Father's employment
3. Income
4. Frequency of father reading for the child (only cohort 1)

Cohort 1/***Cohort 2***

	1.	2.	3	4.
1.	-			
2.	-	-		
3.	.264* ***..349***	.345** ***.297***	-	
4.	-	-	-	-
a. Mother's age of migration	-	-	-	-
b. Father's age of migration	-	-	-	-
c. Mother's educational level	.335**	. ***.234****	.229* ***.321****	.252*
d. Father's educational level	.266* ***.256****	- ***.332****	.299** ***.338****	.299**
f. Mother's language with the child	-	-	-	-
g. Father's language with the child	-	-	- ***.324****	-
h. Mother's language with partner	-	.260*	.344**	-
i. Father's language with partner	-	-	-	-
j. Mother's attitudes towards Turkish	-	-	-	.235*
k. Father's attitudes towards Turkish	.291*	-	-	-
l. Mother's attitude towards Norwegian	.266*	.318**	-	-
m. Father's attitude towards Norwegian	-	-	-	-
n. Number of children's books	-	- ***.343****	.287*	.267*
o. Frequency of mother's reading	-	-	-	.562**
p. Child's preschool-attendance	-.247*	-	-	-
q. PPVT	-	-	-	-
r. EOWPVT	.315**	-	.250* ***.302****	-

Appendix G: The vocabulary tests- PPVT and EOWPVT

PPVT-IV Tyrkisk – Cohort 1

Instruksjon: Si ordet og be barnet om å peke på, eller si tallet på, bildet som viser ordets betydning. (f.eks. ***"Pek på____", "Vis meg____", "Hvilken av disse viser ____?", "Hvilket tall viser ____?"***) Du kan gjenta ordet dersom barnet ber om det, eller dersom repetisjon synes nødvendig.

Begynn med øvingsoppgavene på side A.

Øvingsoppgaver side A

A1. sandalye (2) _____ A2. köpek (1) _____ A3. bisiklet (4) _____

Når barnet har svart riktig på to øvingsoppgaver uten å ha fått hjelp går du til den første testoppgaven og begynner testingen.

Startpunkt: Item #1 **Stoppepunkt:** **8** feil svar på rad

Bilde #	**Ord**	Item potentially not equivalent to original word	Test-takers who have met ceiling	Item difficulty (p- value)					**FEIL**
12	1. ağız			**.77**	**1**	**2**	**3**	**4**	**F**
14	2. muffin			**.77**	**1**	**2**	**3**	**4**	**F**
15	3. davul			**.78**	**1**	**2**	**3**	**4**	**F**
16	4. kaplumbağa			**.71**	**1**	**2**	**3**	**4**	**F**
19	5. havuç			**.93**	**1**	**2**	**3**	**4**	**F**
21	6. ayak parmağı			**.87**	**1**	**2**	**3**	**4**	**F**
22	7. kemer			**.90**	**1**	**2**	**3**	**4**	**F**
24	8. boyamak			**.92**	**1**	**2**	**3**	**4**	**F**
26	9. düdük			**.76**	**1**	**2**	**3**	**4**	**F**
27	10. gol atmak	**'score' (English: kicking)**		**.82**	**1**	**2**	**3**	**4**	**F**
29	11. dörtgen			**.50**	**1**	**2**	**3**	**4**	**F**
30	12. çit			**.55**	**1**	**2**	**3**	**4**	**F**
34	13. kale			**.74**	**1**	**2**	**3**	**4**	**F**
35	14. sincap			**.69**	**1**	**2**	**3**	**4**	**F**
40	15. tüy			**.50**	**1**	**2**	**3**	**4**	**F**
41	16. örümcek ağı			**.76**	**1**	**2**	**3**	**4**	**F**
42	17. dirsek			**.24**	**1**	**2**	**3**	**4**	**F**
43	18. hokkabazlık etmek			**.50**	**1**	**2**	**3**	**4**	**F**
44	19. fıskiye			**.61**	**1**	**2**	**3**	**4**	**F**
45	20. ağ			**.39**	**1**	**2**	**3**	**4**	**F**
46	21. omuz			**.71**	**1**	**2**	**3**	**4**	**F**

49	22. gözetleme			**.33**	**1**	**2**	**3**	**4**	**F**
50	23. cetvel			**.47**	**1**	**2**	**3**	**4**	**F**
51	24. tünel			**.78**	**1**	**2**	**3**	**4**	**F**
52	25. dal			**.34**	**1**	**2**	**3**	**4**	**F**
53	26. zarf			**.46**	**1**	**2**	**3**	**4**	**F**
54	27. baklava şeklinde			**.26**	**1**	**2**	**3**	**4**	**F**
55	28. takvim			**.37**	**1**	**2**	**3**	**4**	**F**
56	29. toka			**.04**	**1**	**2**	**3**	**4**	**F**
58	30. panda			**.82**	**1**	**2**	**3**	**4**	**F**
59	31. yelek			**.58**	**1**	**2**	**3**	**4**	**F**
60	32. ok			**.38**	**1**	**2**	**3**	**4**	**F**
62	33. hedef levhası			**.34**	**1**	**2**	**3**	**4**	**F**
63	34. damlamak			**.35**	**1**	**2**	**3**	**4**	**F**
64	35. şövalye			**.46**	**1**	**2**	**3**	**4**	**F**
65	36. getirmek			**.62**	**1**	**2**	**3**	**4**	**F**
68	37. sürmek			**.46**	**1**	**2**	**3**	**4**	**F**
69	38. pençe			**.42**	**1**	**2**	**3**	**4**	**F**
70	39. üniforma			**.38**	**1**	**2**	**3**	**4**	**F**
71	40. yük			**.32**	**1**	**2**	**3**	**4**	**F**
72	41. kürklü			**.08**	**1**	**2**	**3**	**4**	**F**
73	42. keman			**.29**	**1**	**2**	**3**	**4**	**F**
74	43. grup		**13**	**.25**	**1**	**2**	**3**	**4**	**F**
75	44. yerküre			**.20**	**1**	**2**	**3**	**4**	**F**
76	45. taşıt			**.12**	**1**	**2**	**3**	**4**	**F**
78	46. kabak			**.34**	**1**	**2**	**3**	**4**	**F**
79	47. balta			**.24**	**1**	**2**	**3**	**4**	**F**
80	48. flamingo			**.42**	**1**	**2**	**3**	**4**	**F**
81	49. baca			**.23**	**1**	**2**	**3**	**4**	**F**
82	50. düzenlemek			**.43**	**1**	**2**	**3**	**4**	**F**
83	51. bel			**.41**	**1**	**2**	**3**	**4**	**F**
84	52. sebze			**.19**	**1**	**2**	**3**	**4**	**F**
85	53. sırtlan			**.18**	**1**	**2**	**3**	**4**	**F**
86	54. su tesisatçısı			**.31**	**1**	**2**	**3**	**4**	**F**
87	55. nehir			**.22**	**1**	**2**	**3**	**4**	**F**
88	56. kronometre			**.30**	**1**	**2**	**3**	**4**	**F**
89	57. yakalamak			**.12**	**1**	**2**	**3**	**4**	**F**
90	58. ağaç gövdesi			**.41**	**1**	**2**	**3**	**4**	**F**
91	59. vazo			**.24**	**1**	**2**	**3**	**4**	**F**
92	60. harp			**.29**	**1**	**2**	**3**	**4**	**F**
93	61. çiçek			**.65**	**1**	**2**	**3**	**4**	**F**
94	62. dehşete kapılmış			**.27**	**1**	**2**	**3**	**4**	**F**
95	63. bataklık			**.29**	**1**	**2**	**3**	**4**	**F**
96	64. kalp			**.20**	**1**	**2**	**3**	**4**	**F**
97	65. güvercin			**.18**	**1**	**2**	**3**	**4**	**F**
98	66. ayak bileği kemiği			**.46**	**1**	**2**	**3**	**4**	**F**

99	67. yanan			**.40**	**1**	**2**	**3**	**4**	**F**
100	68. somun anahtarı			**.16**	**1**	**2**	**3**	**4**	**F**
101	69. akvaryum			**.40**	**1**	**2**	**3**	**4**	**F**
102	70. benzin almak		**27**	**.55**	**1**	**2**	**3**	**4**	**F**
103	71. kasa			**.28**	**1**	**2**	**3**	**4**	**F**
104	72. kaya parçası			**.32**	**1**	**2**	**3**	**4**	**F**
105	73. sürüngen			**.20**	**1**	**2**	**3**	**4**	**F**
106	74. kano			**.11**	**1**	**2**	**3**	**4**	**F**
107	75. atlet			**.47**	**1**	**2**	**3**	**4**	**F**
108	76. çekmek			**.41**	**1**	**2**	**3**	**4**	**F**
109	77. bagaj			**.32**	**1**	**2**	**3**	**4**	**F**
110	78. yönlerdirmek			**.20**	**1**	**2**	**3**	**4**	**F**
111	79. asma			**.24**	**1**	**2**	**3**	**4**	**F**
112	80. dijital			**.16**	**1**	**2**	**3**	**4**	**F**
113	81. kesmek			**.20**	**1**	**2**	**3**	**4**	**F**
114	82. yırtıcı			**.38**	**1**	**2**	**3**	**4**	**F**
115	83. yangın musluluğu			**.28**	**1**	**2**	**3**	**4**	**F**
116	84. şaşırmak			**.38**	**1**	**2**	**3**	**4**	**F**
117	85. palmiye			**.13**	**1**	**2**	**3**	**4**	**F**
118	86. klarnet			**.16**	**1**	**2**	**3**	**4**	**F**
119	87. vadi			**.16**	**1**	**2**	**3**	**4**	**F**
120	88. kivi		**32**	**.53**	**1**	**2**	**3**	**4**	**F**
121	89. başvurmak	**('to apply') English: Interviewing**		**.03**	**1**	**2**	**3**	**4**	**F**
122	90. pasta			**.25**	**1**	**2**	**3**	**4**	**F**
123	91. yardımcı olmak			**.35**	**1**	**2**	**3**	**4**	**F**
124	92. kırılgan			**.18**	**1**	**2**	**3**	**4**	**F**
125	93. tek			**.40**	**1**	**2**	**3**	**4**	**F**
126	94. hırlamak			**.16**	**1**	**2**	**3**	**4**	**F**
127	95. kafası karışmış			**.30**	**1**	**2**	**3**	**4**	**F**
128	96. içecek			**.51**	**1**	**2**	**3**	**4**	**F**
129	97. şişirilmiş			**.41**	**1**	**2**	**3**	**4**	**F**
130	98. fil dişi			**.26**	**1**	**2**	**3**	**4**	**F**
131	99. trompet			**.13**	**1**	**2**	**3**	**4**	**F**
132	100. kemirgen			**.08**	**1**	**2**	**3**	**4**	**F**
133	101. içine çekmek			**.16**	**1**	**2**	**3**	**4**	**F**
134	102. halkalar	**('rings') English: links**		**.15**	**1**	**2**	**3**	**4**	**F**
135	103. kirletmek			**.06**	**1**	**2**	**3**	**4**	**F**
136	104. arkeolog			**.16**	**1**	**2**	**3**	**4**	**F**
137	105. sahil			**.02**	**1**	**2**	**3**	**4**	**F**
138	106. iğne yapmak			**.41**	**1**	**2**	**3**	**4**	**F**
139	107. eğreltiotu		**40**	**.13**	**1**	**2**	**3**	**4**	**F**
140	108. memeli hayvan			**.21**	**1**	**2**	**3**	**4**	**F**

141	109. yıkmak			**.24**	**1**	**2**	**3**	**4**	**F**
142	110. yalnızlık			**.34**	**1**	**2**	**3**	**4**	**F**
143	111. mengene			**.07**	**1**	**2**	**3**	**4**	**F**
144	112. yıkık			**.32**	**1**	**2**	**3**	**4**	**F**
145	113. yaya			**.05**	**1**	**2**	**3**	**4**	**F**
146	114. enteriyör			**.10**	**1**	**2**	**3**	**4**	**F**
147	115. giysi			**.26**	**1**	**2**	**3**	**4**	**F**
148	116. yola çıkmak			**.39**	**1**	**2**	**3**	**4**	**F**
149	117. geyik			**.32**	**1**	**2**	**3**	**4**	**F**
150	118. çalı çit			**.11**	**1**	**2**	**3**	**4**	**F**
151	119. turunçgiller			**.19**	**1**	**2**	**3**	**4**	**F**
152	120. çiçekçi			**.32**	**1**	**2**	**3**	**4**	**F**
153	121. süzülmek			**.15**	**1**	**2**	**3**	**4**	**F**
154	122. suda yaşayan			**.31**	**1**	**2**	**3**	**4**	**F**
155	123. azarlamak			**.11**	**1**	**2**	**3**	**4**	**F**
156	124. doğramacı			**.08**	**1**	**2**	**3**	**4**	**F**
157	125. primat			**.06**	**1**	**2**	**3**	**4**	**F**
158	126. planör			**.00**	**1**	**2**	**3**	**4**	**F**
159	127. yorgun			**.31**	**1**	**2**	**3**	**4**	**F**
160	128. balta			**.19**	**1**	**2**	**3**	**4**	**F**
161	129. transparan			**.03**	**1**	**2**	**3**	**4**	**F**
162	130. limuzin	**('limousine') English: sedan**		**.07**	**1**	**2**	**3**	**4**	**F**
163	131. zorla		**48**	**.18**	**1**	**2**	**3**	**4**	**F**
164	132. valf			**.09**	**1**	**2**	**3**	**4**	**F**
165	133. paralelkenar			**.03**	**1**	**2**	**3**	**4**	**F**
166	134. direk			**.10**	**1**	**2**	**3**	**4**	**F**
167	135. tüketmek			**.10**	**1**	**2**	**3**	**4**	**F**
168	136. para			**.31**	**1**	**2**	**3**	**4**	**F**
169	137. tehlikeli			**.20**	**1**	**2**	**3**	**4**	**F**
170	138. pentagon			**.14**	**1**	**2**	**3**	**4**	**F**
171	139. cihaz			**.10**	**1**	**2**	**3**	**4**	**F**
172	140. kümes hayvanı			**.01**	**1**	**2**	**3**	**4**	**F**
173	141. saydam tabaka			**.07**	**1**	**2**	**3**	**4**	**F**
174	142. yarımada			**.04**	**1**	**2**	**3**	**4**	**F**
175	143. porselen			**.08**	**1**	**2**	**3**	**4**	**F**
176	144. infilâk			**.11**	**1**	**2**	**3**	**4**	**F**
177	145. beyinsel			**.15**	**1**	**2**	**3**	**4**	**F**
178	146. dikey			**.10**	**1**	**2**	**3**	**4**	**F**
179	147. daldırmak			**.05**	**1**	**2**	**3**	**4**	**F**
180	148. şırınga		**55**	**.07**	**1**	**2**	**3**	**4**	**F**
181	149. manivela			**.05**	**1**	**2**	**3**	**4**	**F**
200	150. dikkatle okumak			**.16**	**1**	**2**	**3**	**4**	**F**
203	151. bilemek			**.01**	**1**	**2**	**3**	**4**	**F**

207	152. tembal			**.04**	**1**	**2**	**3**	**4**	**F**
211	153. kubbe		**58**	**.08**	**1**	**2**	**3**	**4**	**F**
215	154. sağanak			**.05**	**1**	**2**	**3**	**4**	**F**
220	155. sırtüstü			**.03**	**1**	**2**	**3**	**4**	**F**
225	156. anıt mezar			**.14**	**1**	**2**	**3**	**4**	**F**
227	157. öpmek			**.21**	**1**	**2**	**3**	**4**	**F**

PPVT-IV Tyrkisk – Cohort 2

Instruksjon: Si ordet og be barnet om å peke på, eller si tallet på, bildet som viser ordets betydning. (f.eks. ***"Pek på____", "Vis meg____", "Hvilken av disse viser ____?", "Hvilket tall viser ____?"***) Du kan gjenta ordet dersom barnet ber om det, eller dersom repetisjon synes nødvendig.

Begynn med øvingsoppgavene på side B.

Øvingsoppgaver side B

B1. gülmek (2) _____ B2. uyumak (3) _____ B3. sarılmak (1)_____ B4. yürümek (4) _____

Når barnet har svart riktig på to øvingsoppgaver uten å ha fått hjelp går du til den første testoppgaven og begynner testingen.

Startpunkt: Item #1 **Stoppepunkt:** **8** feil svar på rad

Bilde #	**Ord**	Potentially translated into to an item not equivalent to the original item	Number of test takers reaching ceiling	Item difficulty (p values)					**FEIL**
75	1. yerküre			**.46**	**1**	**2**	**3**	**4**	**F**
83	2. bel			**.70**	**1**	**2**	**3**	**4**	**F**
98	3. ayak bileği kemiği			**.76**	**1**	**2**	**3**	**4**	**F**
99	4. yanan			**.80**	**1**	**2**	**3**	**4**	**F**
100	5. somun anahtarı			**.66**	**1**	**2**	**3**	**4**	**F**
101	6. akvaryum			**.99**	**1**	**2**	**3**	**4**	**F**
102	7. benzin almak	**To 'get' fuel (English: refueling)**		**.99**	**1**	**2**	**3**	**4**	**F**
103	8. kasa			**.95**	**1**	**2**	**3**	**4**	**F**
104	9. kaya parçası			**.65**	**1**	**2**	**3**	**4**	**F**
105	10. sürüngen			**.32**	**1**	**2**	**3**	**4**	**F**
106	11. kano			**.82**	**1**	**2**	**3**	**4**	**F**

107	12. atlet			**.90**	**1**	**2**	**3**	**4**	**F**
108	13. çekmek			**.99**	**1**	**2**	**3**	**4**	**F**
109	14. bagaj			**.98**	**1**	**2**	**3**	**4**	**F**
110	15. yönlerdirmek			**.86**	**1**	**2**	**3**	**4**	**F**
111	16. asma			**.80**	**1**	**2**	**3**	**4**	**F**
112	17. dijital			**.85**	**1**	**2**	**3**	**4**	**F**
113	18. kesmek	**'to carve' (English: dissect)**		**.63**	**1**	**2**	**3**	**4**	**F**
114	19. yırtıcı			**.77**	**1**	**2**	**3**	**4**	**F**
115	20. yangın musluluğu			**.80**	**1**	**2**	**3**	**4**	**F**
116	21. şaşırmak			**.89**	**1**	**2**	**3**	**4**	**F**
117	22. palmiye			**.72**	**1**	**2**	**3**	**4**	**F**
118	23. klarnet			**.54**	**1**	**2**	**3**	**4**	**F**
119	24. vadi			**.45**	**1**	**2**	**3**	**4**	**F**
120	25. kivi			**.99**	**1**	**2**	**3**	**4**	**F**
121	26. başvurmak			**.71**	**1**	**2**	**3**	**4**	**F**
122	27. pasta			**.73**	**1**	**2**	**3**	**4**	**F**
123	28. yardımcı olmak			**.98**	**1**	**2**	**3**	**4**	**F**
124	29. kırılgan			**.53**	**1**	**2**	**3**	**4**	**F**
125	30. tek			**.97**	**1**	**2**	**3**	**4**	**F**
126	31. hırlamak			**.62**	**1**	**2**	**3**	**4**	**F**
127	32. kafası karışmış			**.90**	**1**	**2**	**3**	**4**	**F**
128	33. içecek			**.99**	**1**	**2**	**3**	**4**	**F**
129	34. şişirilmiş			**.96**	**1**	**2**	**3**	**4**	**F**
130	35. fil dişi			**.85**	**1**	**2**	**3**	**4**	**F**
131	36. trompet			**.40**	**1**	**2**	**3**	**4**	**F**
132	37. kemirgen			**.32**	**1**	**2**	**3**	**4**	**F**
133	38. içine çekmek			**.87**	**1**	**2**	**3**	**4**	**F**
134	39. halkalar			**.47**	**1**	**2**	**3**	**4**	**F**
135	40. kirletmek			**.62**	**1**	**2**	**3**	**4**	**F**
136	41. arkeolog			**.50**	**1**	**2**	**3**	**4**	**F**
137	42. sahil			**.58**	**1**	**2**	**3**	**4**	**F**
138	43. iğne yapmak		**2**	**.93**	**1**	**2**	**3**	**4**	**F**
139	44. eğreltiotu			**.44**	**1**	**2**	**3**	**4**	**F**
140	45. memeli hayvan			**.94**	**1**	**2**	**3**	**4**	**F**
141	46. yıkmak			**.95**	**1**	**2**	**3**	**4**	**F**
142	47. yalnızlık			**.96**	**1**	**2**	**3**	**4**	**F**
143	48. mengene			**.36**	**1**	**2**	**3**	**4**	**F**
144	49. yıkık			**.89**	**1**	**2**	**3**	**4**	**F**
145	50. yaya			**.63**	**1**	**2**	**3**	**4**	**F**
146	51. enteriyör			**.22**	**1**	**2**	**3**	**4**	**F**
147	52. giysi			**.92**	**1**	**2**	**3**	**4**	**F**
148	53. yola çıkmak			**.95**	**1**	**2**	**3**	**4**	**F**
149	54. geyik			**.94**	**1**	**2**	**3**	**4**	**F**
150	55. çalı çit			**.42**	**1**	**2**	**3**	**4**	**F**
151	56. turunçgiller			**.32**	**1**	**2**	**3**	**4**	**F**

152	57. çiçekçi			**.91**	**1**	**2**	**3**	**4**	**F**
153	58. süzülmek			**.39**	**1**	**2**	**3**	**4**	**F**
154	59. suda yaşayan			**.89**	**1**	**2**	**3**	**4**	**F**
155	60. azarlamak			**.71**	**1**	**2**	**3**	**4**	**F**
156	61. doğramacı			**.21**	**1**	**2**	**3**	**4**	**F**
157	62. primat			**.04**	**1**	**2**	**3**	**4**	**F**
158	63. planör			**.08**	**1**	**2**	**3**	**4**	**F**
159	64. yorgun			**.86**	**1**	**2**	**3**	**4**	**F**
160	65. balta			**.67**	**1**	**2**	**3**	**4**	**F**
161	66. transparan			**.05**	**1**	**2**	**3**	**4**	**F**
162	67. limuzin	**'limousine' (English: sedan)**		**.37**	**1**	**2**	**3**	**4**	**F**
163	68. zorla			**.46**	**1**	**2**	**3**	**4**	**F**
164	69. valf			**.22**	**1**	**2**	**3**	**4**	**F**
165	70. paralelkenar		**6**	**.66**	**1**	**2**	**3**	**4**	**F**
166	71. direk			**.83**	**1**	**2**	**3**	**4**	**F**
167	72. tüketmek			**.55**	**1**	**2**	**3**	**4**	**F**
168	73. para			**.92**	**1**	**2**	**3**	**4**	**F**
169	74. tehlikeli			**.77**	**1**	**2**	**3**	**4**	**F**
170	75. pentagon			**.39**	**1**	**2**	**3**	**4**	**F**
171	76. cihaz			**.44**	**1**	**2**	**3**	**4**	**F**
172	77. kümes hayvanı			**.40**	**1**	**2**	**3**	**4**	**F**
173	78. saydam tabaka			**.29**	**1**	**2**	**3**	**4**	**F**
174	79. yarımada			**.17**	**1**	**2**	**3**	**4**	**F**
175	80. porselen			**.66**	**1**	**2**	**3**	**4**	**F**
176	81. infilâk			**.35**	**1**	**2**	**3**	**4**	**F**
177	82. beyinsel			**.84**	**1**	**2**	**3**	**4**	**F**
178	83. dikey			**.50**	**1**	**2**	**3**	**4**	**F**
179	84. daldırmak			**.46**	**1**	**2**	**3**	**4**	**F**
180	85. şırınga			**.21**	**1**	**2**	**3**	**4**	**F**
181	86. manivela			**.09**	**1**	**2**	**3**	**4**	**F**
182	87. kıyafet			**.86**	**1**	**2**	**3**	**4**	**F**
183	88. pençe			**.56**	**1**	**2**	**3**	**4**	**F**
184	89. kültive etmek			**.19**	**1**	**2**	**3**	**4**	**F**
185	90. kama			**.19**	**1**	**2**	**3**	**4**	**F**
186	91. çıkmak			**.80**	**1**	**2**	**3**	**4**	**F**
187	92. tükenmiş			**.68**	**1**	**2**	**3**	**4**	**F**
188	93. sternum			**.09**	**1**	**2**	**3**	**4**	**F**
189	94. denizsel			**.85**	**1**	**2**	**3**	**4**	**F**
190	95. zindana atmak			**.77**	**1**	**2**	**3**	**4**	**F**
191	96. kederli			**.29**	**1**	**2**	**3**	**4**	**F**
192	97. kuintet			**.14**	**1**	**2**	**3**	**4**	**F**
193	98. akkorlu			**.04**	**1**	**2**	**3**	**4**	**F**
194	99. sır vermek		**11**	**.79**	**1**	**2**	**3**	**4**	**F**
195	100. ticari			**.35**	**1**	**2**	**3**	**4**	**F**
196	101. koltuk			**.85**	**1**	**2**	**3**	**4**	**F**
197	102. süzme			**.50**	**1**	**2**	**3**	**4**	**F**

198	103. doldurmak			**.86**	**1**	**2**	**3**	**4**	**F**
199	104. yörünge			**.19**	**1**	**2**	**3**	**4**	**F**
200	105. dikkatle okumak			**.86**	**1**	**2**	**3**	**4**	**F**
201	106. kancalı uç			**.72**	**1**	**2**	**3**	**4**	**F**
202	107. yaklaşmak			**.59**	**1**	**2**	**3**	**4**	**F**
203	108. bilemek			**.30**	**1**	**2**	**3**	**4**	**F**
204	109. oltacı			**.54**	**1**	**2**	**3**	**4**	**F**
205	110. gnu			**.14**	**1**	**2**	**3**	**4**	**F**
206	111. kozalaklı			**.44**	**1**	**2**	**3**	**4**	**F**
207	112. tembal			**.15**	**1**	**2**	**3**	**4**	**F**
208	113. aşırma			**.59**	**1**	**2**	**3**	**4**	**F**
209	114. havan tokmağı			**.26**	**1**	**2**	**3**	**4**	**F**
210	115. dinlenmek		**13**	**.84**	**1**	**2**	**3**	**4**	**F**
211	116. kubbe			**.31**	**1**	**2**	**3**	**4**	**F**
212	117. petrol kuyusu kulesi			**.33**	**1**	**2**	**3**	**4**	**F**
213	118. konveks			**.16**	**1**	**2**	**3**	**4**	**F**
214	119. baskılı			**.34**	**1**	**2**	**3**	**4**	**F**
215	120. sağanak		**16**	**.37**	**1**	**2**	**3**	**4**	**F**
216	121. hecin devesi			**.28**	**1**	**2**	**3**	**4**	**F**
217	122. baklagiller			**.30**	**1**	**2**	**3**	**4**	**F**
218	123. höyük			**.18**	**1**	**2**	**3**	**4**	**F**
219	124. ekilebilir			**.71**	**1**	**2**	**3**	**4**	**F**
220	125. sırtüstü			**.64**	**1**	**2**	**3**	**4**	**F**
221	126. camdan			**.77**	**1**	**2**	**3**	**4**	**F**
222	127. hüzünlü			**.81**	**1**	**2**	**3**	**4**	**F**
223	128. matkap aynasý			**.28**	**1**	**2**	**3**	**4**	**F**
224	129. koreografi			**.22**	**1**	**2**	**3**	**4**	**F**
225	130. anıt mezar			**.64**	**1**	**2**	**3**	**4**	**F**
226	131. kaliks			**.13**	**1**	**2**	**3**	**4**	**F**
227	132. öpmek			**.83**	**1**	**2**	**3**	**4**	**F**
228	133. berberlikle ilgili			**.79**	**1**	**2**	**3**	**4**	**F**

EXPRESSIVE ONE WORD PICTURE VOCABULARY TEST (EOWPVT)

Instruksjonssammendrag for administrering av test	
Si: ***"Nå skal jeg vise deg noen bilder, og jeg vil at du sier til meg det ordet som passer til hvert bilde, eller hver bildegruppe."*** **Administrering:** Gå gjennom alle eksempel bildene. Begynn deretter med det første bildet,	**Instruksjon:** For de fleste bildene er instruksjonen ***"Hva er dette?"***, dersom ikke annen instruksjon er oppgitt i den supplerende listen. **Hint:** Bruk et verbalt hint for å lede barnets

som angitt i rekkefølgen under (nr. 30 for kohort 1, nr. 80 for kohort 2). Dersom barnet IKKE svarer riktig på alle de første 8 bildene, gå baklengs bilde for bilde fra det første bildet inntil barnet har svart riktig på 8 bilder på rad. Fortsett så framover inntil barnet har svart feil på 6 bilder på rad. **GRUNNLAG: 8 RIKTIGE SVAR PÅ RAD** **ØVRE GRENSE: 6 FEIL SVAR PÅ RAD**	oppmerksomhet dersom barnet avgir svar som tyder på at han/hun ikke er oppmerksom på det kjennetegnet ved bildet som det spørres etter (se supplerende liste). **TA OPP!**

Oppstartspunkter:	
Kohort 1: Alder 5-0-5-11 Bilde 30	Kohort 2: Alder 11-0 – 12-11 Bilde 80

EKSEMPLER:

A. hund _____ B. tå _____

C. *Hva gjør hun?* D. *Hva er dette?*

spise_ _____ leker _____

Item	Barnets svar	Galt svar	Hint
1. båt		Bil	
2.tre		Busk	
3. eple		Pære	
4. øy(n)e		Ører	
5. katt/pus		Hund	Kjæledyr/ "Hva slags?"
6. telefon		Radio	
7. fugl		Ekorn	Spurv/ "Hva annet kalles dette?"
8. saks		Klippe	
9. buss		Tog, bil, lastebil	
10.huske		Sklie	
11. sykkel		Motorsykkel, buss, bil	
12. sofa		Stol	
13. fly/jet		Helikopter	
14. bok		Eske	
15. and		Kalkun, kylling, gås	Fugl/ "Hva slags?"
16. tog		Lastebil, buss	
17. blad		Tre, flagg	
18. klokke, ur		tidtager	
19. lastebil		Bil, buss, varebil	
20. datamaskin, pc		TV	
21. mais		Gulrot	
22. maler		Vasker	Mann/ "Hva gjør han?"
23. drage		Flagg, fly	

24. vogn		Dra, leke	
25. kylling/høne/hane		Kalkun, and	Fugl/ “Hva slags?”
26. kopp		Drikke, bolle	
27. kurv		Bolle, bag	
28. øre		hatt	Hode/ (pek på pilen) ”Hva er dette?”
29. hjul		Dekk, sykkel	
COHORT 1 OPPSTARTSPUNKT			
30. sky			
31. tiger		løve	
32. røyk		skyer	Pipe/ (pek på pilen) ”Hva er dette?”
33. havfrue		Jente, fe, alv	
34. dyr		(enkelt dyr)	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
35. vegg		seng	Vinduer, gardiner/ (pek på pilen) ”Hva er dette?”
36. pingvin		Sel, and	Fugl/ ”Hva slags?”
37. insekter		dyr	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
38. sjøstjerne		Blekksprut, musling	
39. klær		(enkelte klesplagg)	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
40. bildekk		hjul	
41. bro		Bygning, togspor, port	Vei/ (pek på broen) ”Hva er dette?”
42. kofferter/baggasje		Kurver, bokser, esker, pakker, ferie	
43. rullebrett/ skateboard		Skøyte, rulleskøyter	
44. fotspor, fotavtrykk		Føtter, skritt	
45. frukt			Mat/”Hva slags?”
46.skjellet			
47. lys		natt	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
48. akvarium		Boks, bur, gullfisk	
49. vaskebjørn		Ekorn, rev, stinkdyr	Dyr/ “Hva slags?”
50. mat		Middag, lunsj	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”

51. gevir, horn		ører	Reinsdyr, hjort/(pek på pil) ”Hva heter dette?”
52. sy(r)		Strikke, skjære	Mann/”Hva gjør han?”
53. drikker/forfriskninger		Kopper, snacks	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
54. peis		Pipe, ild, røyk	Murstein/(sirkle illustrasjonen) ”Hva er dette?”
55. tannlege		Sykepleier, tenner	Lege/”Hva slags?”
56. møbler		Soverom, stoler, hus ting	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
57. kaktus		Tre, farlig	Ørken/ (pek på kaktus) ”Hva er dette?”
58. statuer		Pokaler, stein	
59. kikkert		Kamera, briller,	
60. skiftenøkkel		Skrutrekker, tang	Redskap/ ”Hva slags?”
61. instrumenter		Musikk, leker, band	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
62. ananas		Kongle, pinnsvin	Frukt/ ”Hva slags?”
63. krakk		Benk, stol	Sete/ ”Hva slags?”
64. fly		Luft, himmel, vinger	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
65. *teleskop*		Mikroskop	Forstørrelsesinstrument/ ”Hva slags?”
66. geit		Sau, lam, hjort	Dyr/ ”Hva slags?”
67. post		Brev, konvolutter	
68. struts		Påfugl, kalkun, flamingo	Fugl/ ”Hva slags?”
69. rektangel		Firkant, triangel, blokk, boks	Form/ ”Hva slags?”
70. leopard/jaguar/gepard		Tiger, løve	Dyr/ ”Hva slags?”
71. kompass		Klokke, ur	
72. skjold		Skilt, rustning	
73. skriving/tegning		Blyanter, utstyr	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
74. hummer/kreps/		Krabbe, reke, skorpion, innsekt	
75. termometer/ gradestokk		Temperatur, måling	

76. Norge		Jorda, Afrika, verden	Kart/ ”Hva slags?”
77. sal		Hestesete, cowboy ting	
78. trompet		Fløyte, trombone, musikk	Instrument, horn/ ”Hva slags?”
79. trillebår		Vogn, tønne	
COHORT 2 OPPSTARTSPUNKT			
80. prosent		Deling, pris	Matte tegn/ ”Hva slags?”
81. vindmølle		Vifte, satellitt, værhane	
82. pote, labb		Fot, klo	
83. sjakk		Tripp-trapp-tresko, sjekk	Spill/ ”Hva slags?”
84. pinsett		Saks, klype, tang	
85. tid		Klokker, ur	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
86. stadion/arena		Fotball, ballspill, bane	
87. stubbe		Stamme, tre, tømmer	
88. kutting/skarp/ klippe/skjære		Kniver, arbeid	Redskaper/ ”Hva slags?”
89. pyramide(r)		Telt, triangler, fjell	
90. fallskjermhoppere/ -ing		Fly, astronaut	Hoppe/”Hva mer hetter dette?”
91. måling/ måleinstrumenter		temperatur	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
92. krypdyr/reptiler		Pattedyr, amfibier	Dyr/”Hva slags?”
93. selleri		Brokkoli, kål, salat	Grønnsak/ ”Hva slags?”
94. transportmidler/reise		Kjøring, motor, bevege	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
95. fjær(er)		Spiraler, kveil, ståltråd	
96. banjo		Gitar, fiolin, ukulele	Instrument/ ”Hva slags?”
97. graf/diagram		Kart, rutenett, grader, skala	
98. bumerang		Frisbee, slynge, sokk	Leketøy/ ”Hva slags?”
99.drivhus		Hage, låve, skur	
100. brygge/kai		Bro, dekk	Vann, sjø/ (pek på brygge) ”Hva er dette?”
101. hov		pote	Fot/ ”Hva er dette?”
102. vann		Bokstaver, oksygen, H2O	Kjemisk/ ”Hva slags?”
103. retninger		Tegn, reise, piler	(navn på ting) /

			(sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
104. mikroskop		Teleskop, forstørrelsesglass	Forstørrelsesinstrument/ ”Hva slags?”
105. hengekøye		Huske, seng, salong, hvile	
106. Afrika		Sør-Amerika, stat	Kart, kontinent/ ”Hvilket?”
107. følelse(r)/reaksjon(er)/ uttrykk		Ansikter, folk, handlinger, barn	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
108. krydder		Salt, bøsser, bokser, krukker	
109. trakt		Horn, filter, rør	
110. batteri		Vask, motor, radio	
111. skriftrulle		Kart, skript, papir, brev	Tora/ ”Hva annet kan man kalle dette?”
112. klarinett		Fløyte, obo, horn	Instrument/ ”Hva slags?”
113. vekt/skålvekt		veier	
114. bulldoser		Traktor, plog, bygging	Kjøretøy/ ”hva slags?”
115. apparater		redskaper, matlaging, elektrisitet	
116. sekskant		Oktogon, pentagon, stopp skilt	Form/ ”Hva slags?”
117. søyle		Stang, støtte, statue	
118. snelle		Form, motor, hjul	Fiskestav/ (pek på pil)”Hva er dette?”
119. stetoskop		Teleskop, doktor ting, hjerte	
120. timeglass		Tid, klokke	Tidtaker/ ”Hva slags?”
121. hekkeløp (er)		Gymnastikk, hopping, bane	
122. monumenter/minnesmerker		Statuer, bygninger	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
123. ambolt		Anker, jern	
124. oter		Bever, sel, røyskatt	Dyr/”Hva slags?”
125. kajakk		Kano, flåte	Båt/ ”Hva slags?”
126. skrutvinge/klamp		Skru	Redskap/ ”Hva slags?”
127. gnager(e)		Pelskledd, vill, reptiler	Dyr, pattedyr/ ”Hva slags?”
128. kommunikasjon/ informasjon		Underholdning, elektronikk, media, nyheter	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”
129. symbol(er)/tegn		Medisin, helse, retninger	

130. beret/baskerlue/ alpelue		Malerhatt, fransk hatt	Hatt/ ”Hva slags?”
131. sfinks		Egyptisk, pyramide	Statue/ ”Hva slags?”
132. sopp			*(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for alle disse?”*
133. stativ		Teleskop, kamera, overvåker	Holder/ ”Hva slags?”
134. perkusjon/slagverk		Musikk, band	Instrumenter/ ”Hva slags?”
135. gradskive		Kompass, linjal, skala	Redskap/ ”Hva slags?”
136. stigbøyle		Sal, fotholder	
137. hieroglyf(er)		Egyptisk, former	Symboler/ ”Hva slags?”
138. nøkler		Musikk, noter	(navn på ting) / (sirkle illustrasjonen) ”Hvilket ord passer for disse?”
139. rombe/parallellogram		Kvadrat, rektangel, trapes	Form/ ”Hva slags?”
140. *nal*		Skraper, malekost	
141. termostat		Ovn, temperatur	
142.målebeger			Måleredskap/ ”Hva slags?”
143. fjærkre		Fjær, mat	Fugler, dyr/ ”Hva slags?”
144. åk/forspann		Hestesko, hylster, løkke	
145. observatorium		Laboratorium, dom, fyrtårn, planetarium	Teleskop/ (sirkle illustrasjonen) ”Hva er dette?”
146. *resept*		Gift, helse, apotek	
147. tann		Finger, spiss	Gaffel/ (pek på pilen) ”Hva er dette?”
148. metronom		Vekt, klokke, pendel	
149. kuleramme		Matte, leke	Telleredskap/ ”Hva slags?”
150. silhuett		Skygge, stempel, detektiv	
151. glødetråd		Kveil, tråd, fjær	Lyspære/ (pek på pil) ”Hva ser dette?”
152. tistel		Blomst, løvetann, torn	Plante, ugress/ ”Hva slags?”
153. måleinstrumenter		Radioer, elektrisitet, varmeapparater	
154. måler opp/oppmåling		Ingeniør, se, teleskop	
155. kandelaber		lampe	Lysestake/ ”Hva slags?”
156. sigd		Krok, ljå	
157. sadelknapp		Hylster, håndtak	
158. virvelløse dyr		Insekter, planteetere	

159. tangent		Ball, loop, sirkel, bakke	
160. enøyd kikkert		Kamera, teleskop	
161. skarabé		Bille, fossil, insekt	
162. sfære		Globus, sirkel, omkrets	
163. murskje		Jevner, spreder, jern	
164. skår		Artefakt, leire	
165. sekstant		Kompass, pendel, ark	
166. trinse			
167. utrigger		Kano, katamaran	Båt/ ”Hva slags?”
168. sjalusi			
169. sokkel		Base, støtte	Søyle/ (pek på pil) ”Hva er dette?”
170. steindysse		Stein, bord, alter	